

AMERICAN ARTISAN

JUNE
1943



RESIDENTIAL AIR CONDITIONING
WARM AIR HEATING • SHEET METAL CONTRACTING

ESTABLISHED
1 8 8 0



A Fledgling tries his Wings

He's just a fledgling now, essaying his first half-timid solo flight in an airworthy Fairchild trainer plane. Like the baby eagle, he is trying his wings—getting the feel of them . . . making them strong, sure and dependable for the heroic contest that lies ahead.

We at LAMNECK PRODUCTS are proud to be manufacturing important parts and assemblies for the Fairchild basic trainer. Proud in the knowledge that in so doing

we are helping to make the fledglings of today the "Fighting Eagles" of tomorrow . . . those brave men who pilot the great battle-armed pursuits and bombers over the world's far-flung theaters of war.

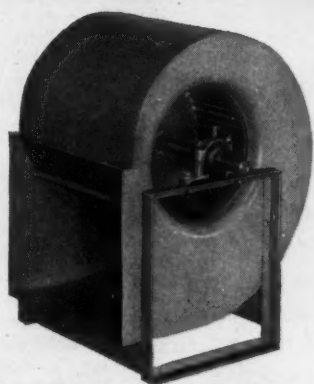
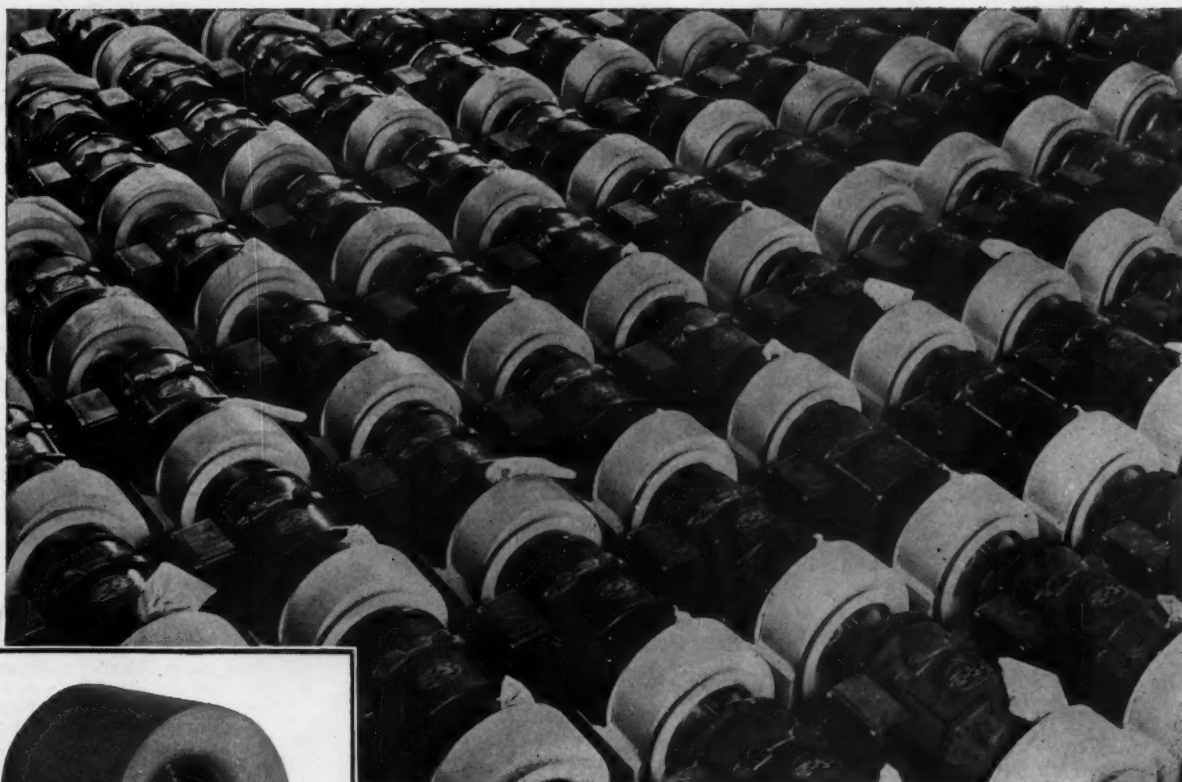
One day—not too far removed, we hope—they'll come winging home with Victory secure in their talons. Then we'll be back again with better-than-ever LAMNECK Prefabricated Products for you.



LAMNECK PRODUCTS INC.

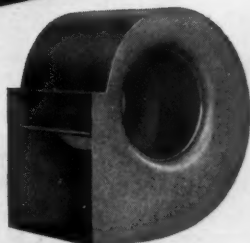
For the duration we are making airplane parts
and parts assemblies

Middletown, Ohio



**usAIRco
BLOWER WHEELS, SCROLLS
BLOWER ASSEMBLIES**

usAIRco offers a wide selection of Blower Wheels, Scroll Housings and complete Double-Inlet Blower assemblies for furnace manufacturers and makers of Air Conditioning Units. Practically any application, standard or special requiring individual wheel, housing or complete assembly, will find the correct and properly designed Unit available from usAIRco.



usAIRco BLOWERS

ANY SIZE, ANY TYPE, to meet your needs now!

The tremendous impetus of the war demands for usAIRco Blowers and other tools of air conditioning has broadened our capacity to produce, and effected many improvements in design and manufacture.

usAIRco Blowers are serving the armed forces in camps, bases, hospitals, navy yards and ships at sea. In the field of industry usAIRco Blowers are performing efficiently in a multitude of applications—heating, exhausting, and moving conditioned air.

The engineering skill which designed these better usAIRco Blowers and the trained personnel which is producing them is at your service to deliver any type, any size of Blower you need. Write Today for complete details, prices and delivery dates.

usAIRco Blowers are guaranteed as to rating and performance. They're designed to make profit for the man who owns them.



UNITED STATES AIR CONDITIONING CORPORATION

Manufacturers of the most complete line of air-handling equipment.
Factory representatives in principal cities.

NORTHWESTERN TERMINAL • MINNEAPOLIS, MINNESOTA

AMERICAN ARTISAN

Covering All Activities in Residential Air Conditioning and Small Commercial Cooling, Warm Air Heating, Sheet Metal Contracting and Fabricating

WITH WHICH ARE MERGED

FURNACES
SHEET METALS

AND

Warm-Air
Heating

J. D. Wilder, Editor

A. A. Kennedy, Assistant Editor

Vol. 112, No. 6

June, 1943

Founded 1880

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In This Issue

A LOT of important things happened during the last month—this is reflected in the many pages in this issue devoted to news on general business problems.

There were conventions of the furnace manufacturers (page 54); the annual convention of Illinois contractors (page 56) at which members attending voted to join a national association when formed; there was a meeting of the sheet metal distributors (page 53); and of most interest, probably, to readers, an organization meeting called to see if a new national association of sheet metal and allied contractors can be formed (page 52).

♦

Contractors who do sheet metal contracting, warm air heating, roofing, and all allied activities are invited to join this new association and to pitch in now and help get the organization operating. In addition to the report of the Chicago organization meeting (page 52) there is also a letter explaining the purpose on page 31. We hope every reader will take the time to read and digest these two announcements. More important, it is hoped that every employer who feels that a national association can be of help now and after the war will send in the small dues and will, if possible, attend the next meeting—in Detroit—in about 60 days

♦

Manufacturers who attended the warm air association meeting were anxious to hear Paul Zimmerman propound his plan for a nation-wide organization to promote better indoor climate in order that the heating industry can get its fair share of the house building dollar after the war.

What Mr. Zimmerman said and what the proposed organization shall aim for is related on page 28.

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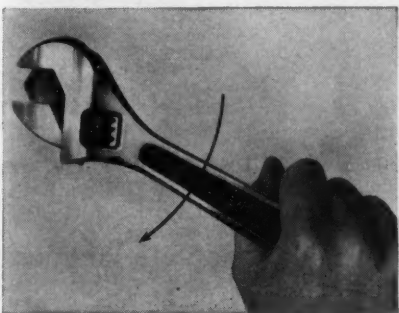
TOOL NOTES

"How To Do It"
Information For
Crescent Tool Users

No. 11 HOW TO USE CRESCENT AND CRESTOLOY WRENCHES



● A prime rule in using any adjustable wrench is to first adjust it to a snug fit on the nut to be turned. A tightly adjusted wrench is safer since danger of slippage is minimized. A loosely fitted wrench will tend to "round" the corners of hexagon objects, and may damage the wrench by exerting undue strains on the jaws.



Adjustable Wrenches develop their greatest strength when hand pressure is applied to the side of the wrench carrying the fixed jaw as shown above. They can, however,

be pulled in either direction on moderate loads, and are frequently "flopped" between swings to gain an angular advantage and permit continuous rotation of nuts or bolts where cramped quarters limit the handle swing.



"Crestoloy" Wrenches, being thinner (and stronger) than "Crescent" Wrenches are the preferred tools

for use in cramped quarters or when adjustable wrenches are used in pair as shown in center illustration. For extremely heavy loads, Crestoloy's, likewise, are recommended.



Greasy, oil-covered tools are dangerous. Keep the handles clean and dry by occasional wiping. Oil should be applied sparingly to moving parts.



USE THE PROPER SIZE WRENCH FOR THE JOB

Crescent and Crestoloy Wrenches are made in several sizes to handle efficiently a wide variety of work. Select proper size rather than overload the wrench. Handle lengths of all wrenches, up to and including the 12" size, are carefully computed

to provide safe leverage at maximum opening. The tapered handle Crestoloy Wrenches, shown above, are designed to permit use of a pipe extension on the handle.

MAIL THE COUPON ... for Free Reprints of this series of informative ads. Please indicate whether you want them for bulletin board use, or punched for 3-ring binder.

Crescent Tool Co., Jamestown, N. Y. B-1

Please send your "TOOL NOTES" Series

☐ for Bulletins ☐ for 3-ring binder

Name _____

Address _____

City _____ State _____

CRESCENT TOOLS
Give Wings to Work

CRESCENT TOOL COMPANY, JAMESTOWN, N. Y.

HOT JAVA *in* **Iceland...**



When you compare a canteen cup or mess-kit with a tank, the eating utensil seems piddling and insignificant. But multiply it by an 8,000,000-man army and you immediately see that a large tonnage of steel is involved.

It's special steel, too. Made in deep-drawing quality, so that a canteen-cup can be pressed out of a flat circular disc (rolled rim,

kidney shape and all). Bethlehem is supplying mess-kit manufacturers with this special deep-drawing steel in substantial quantities. This is just one more example of the many calls nowadays on Bethlehem's sheet-steel capacity, both for direct war equipment and for supplementary jobs on the working front.

BETHLEHEM STEEL SHEETS



★ ★ ★

Announcing . . .

THE NEW HENRY FURNACE CO. MEDINA, OHIO



C. A. Olsen,
President of The
Henry Furnace Co.,
Medina, Ohio



Manufacturing plant and general office of The Henry Furnace Company, Medina, Ohio, covering approximately 200,000 square feet of manufacturing space.

ON May 27, 1943, The Henry Furnace Co., of Medina, Ohio, acquired the ownership of all the Medina, Ohio, real estate, buildings, equipment and inventory, including trademarks and trade names, of The Henry Furnace & Foundry Co.

In acquiring the Moncrief Warm Air Furnace, Air Conditioning and Pipe and Fittings line, it is our intention to keep production on these products as close to 100% as circumstances will permit. Today, plans for an early increase in production have been formulated and production will be stepped up as rapidly as raw materials and additional manpower can be obtained and manufacturing efficiency can be improved.

We solicit the continued patronage of Moncrief Dealers and Jobbers. We desire to supply their heating equipment requirements, to the best of our ability.

General headquarters are located right at our manufacturing plant, from which administrative, sales, accounting, purchasing and other activities will be conducted. All communications should be addressed to Medina, Ohio.

It is our determination to continue the high Moncrief standard of excellence which has been maintained for more than 40 years.

Signed
C. A. Olsen, Pres.

Warm Air Furnaces
Furnace Pipe
and Fittings

MONCRIEF

Air Conditioning
Systems for
Coal . . . Gas . . . Oil

THE HENRY FURNACE COMPANY

MEDINA, OHIO

5 Steps in fabricating A.R.A. SHEETS

Easy Ways to Fabricate A-R-A Sheets into Duct Work

1. SCORE and BEND. Mark, punch or notch the flat A-R-A Sheets where you want them to bend. Place the Sheet in your brake and lay a small diameter steel rod, (or a small channel or angle iron with the legs down), centered where the bend is to come. Pull the top leaf bar down several times to form a deep crease into the sheet. You can then bend the A-R-A Sheet to any desired angle.

2. APPLY SHEETLOCK METAL FASTENER. Machine formed Sheetlock metal seams are available to make a tight joint. You simply insert the edges of the A-R-A Sheets into the open grooves. The pre-formed "dogs" or notches in the metal groove grip the sheet securely.

Here is the package of A-R-A. Sheets—the most convenient sheet to ship, stock or carry on the job. The Sheets are always clean and in good condition.

Asbestos clad A-R-A. Sheets are tough yet flexible—rigid but not brittle—fire-proofed and water-proofed—will not dry out, crack, crumble, or chip, have a high insulating value (K. 45 B.T.U.) and good sound-deadening properties. Sheets that make it the most convenient sheet to ship, stock or carry on the job.

3. CLOSE THE DUCT. When the two edges are forced into the metal openings as far as they will go, you have a tight smooth seam. For large Ducts requiring more than one A-R-A Sheet to go around, additional splices or seams may be made the same way or Metal Sheetlock Corners of the same type may be used.

4. JOIN DUCT LENGTHS. The same Metal Sheetlock fasteners may be used for joining several lengths of formed Duct together. To bend the Sheetlock around the corners, you notch out the inside legs of the seam with your snips. This gives a neat, accurate corner. Fit the A-R-A Sheet Duct into the grooves and "force the Sheets home." A flat blade or putty knife slipped along edge of the strip will feed the sheet in easier.

A satisfactory "drive cleat" joint can be made by splitting a Sheetlock corner piece in two, fastening each half on the edge of the A-R-A Sheet and then tying the two together with a cleat to hold them tight.

Many other satisfactory and ingenious methods for making the modern A-R-A Ducts have been used. A-R-A Sheets are built and designed for easiest fabrication right in your own shop or on the job.

A-R-A Sheets, Sheetlock metal seams and corner fasteners are available **WITHOUT PRIORITY.**

Write today for the free 16-page illustrated booklet No. 89-A

CARTON CONTENTS

20 Sheets 33"x48" Per Carton

40 Sheets 16½"x48" Per Carton

SHIPPING WEIGHT

Approximately 100 lbs. per Carton

SHEET THICKNESS

Approximately 3/16" thick

Get Genuine A.R.A. Sheets

GRANT WILSON, INC.

4101 W. TAYLOR ST.

CHICAGO, ILLINOIS

Help on the Home Front... Repair Furnaces NOW!



YOU can do your part on the home front by urging your customers to get their furnaces in shape now for next winter. Not only must war workers be kept warm when winter rolls around again but it means conservation of precious fuel to have furnaces in good working order.

Now, when furnaces are idle, check every one in your community and impress their owners with the advantages of necessary cleaning and repairs.

This work is not only patriotic but profitable. It means extra dollars of business for you in these days of restricted furnace sales. But be sure to get genuine Rybolt repair parts...made from original patterns with quality materials. You can count on their dependable performance because they are identical with parts used in the original Rybolt unit.

Under Government order P-84 we can supply a limited quantity of Rybolt units for replacement where furnaces are beyond repair.

*Save or Slave—
Buy War Bonds*



THE RYBOLT HEATER COMPANY

615 MILLER STREET



ASHLAND, OHIO



FIX ALL FURNACES NOW!

THIS year more than ever before it becomes practically imperative that you have all furnaces in need of repair, ready for perfect, economical heating before the fires are lit next fall. Don't wait . . . as this may prove to be a costly error for both your customers and yourself. Manpower may make it impossible to secure the desired parts immediately.

NOW . . . is the time to do this work, and Northwestern is in a position to deliver most every kind of furnace, stove and boiler repair part . . . which will fit perfectly, thus requiring a minimum of man hours for installation. This means more jobs done in less time.

"Keep 'em Heating" this coming winter . . . start now . . . and to make certain of foolproof repairs use Northwestern parts on all jobs!

NORTHWESTERN STOVE REPAIR CO.

Manufacturers of Stove, Furnace and Boiler Repairs

662 West Roosevelt Road

Chicago, Ill.

DEALERS SAY: —



Penn Dependability is
Keeping
Customers Sold
on
Automatic Heating

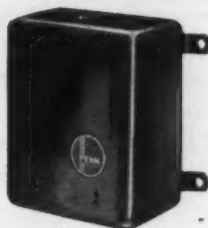
Engineered for simplicity...precision-built for accuracy...Penn heating controls are building good-will for dealers by their dependable war-time service.

Under the restrictions of war-time, the *serviceability* of existing equipment is the most important factor in assuring customer satisfaction. Penn controls are protecting the reputations of the dealers who installed them—helping to create a wider market for the automatic heating which will be available after the war.

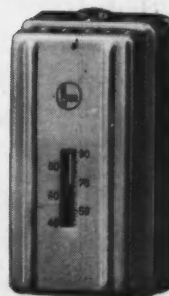
Embodied in the complete line of Penn controls for all fuels, and all systems, are exclusive features of design and engineering, which are important factors in the war-time service of these controls. In the Penn controls which will be available for the great heating market after the war, you will find evidence of the same leadership in design, engineering and precision manufacture. *Penn Electric Switch Co., Goshen, Indiana.* In Canada: Powerlite Devices, Inc., Toronto, Ont.



Warm Air
Furnace Control

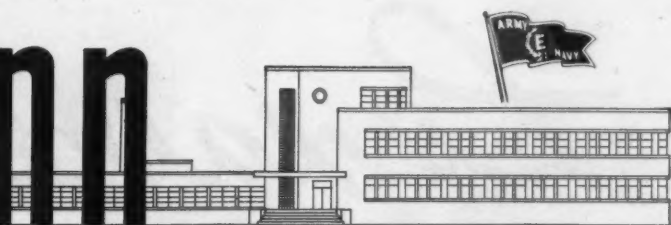


Stoker
Timer Relay



Heat Anticipating
Thermostat

PENN



AUTOMATIC CONTROLS

FOR HEATING, REFRIGERATION, AIR CONDITIONING, ENGINES, PUMPS AND AIR COMPRESSORS

★ ★ AMERICA ★ ★

the Modern Aladdin



THE cry of the Axis, "They're unprepared! . . Time is against them. We have prepared for 20 years. We can't lose!"

Yes, the above seemed true until that fatal December 7th. From that day America has transformed itself into the Modern Aladdin who today, in just a little more than a year, is the one gigantic arsenal supplying planes, tanks, guns and munitions to the United Nations all over the world, in greater quantities than all the other nations combined.

The Luxaire plant speedily became a part of the Modern Aladdin, turning out implements of war. This speedy change-over was possible only because Luxaire's new, modern machines and equipment were as capable of fabricating products needed by our armed forces as they were capable of producing warm air furnaces and air conditioning units.



BUY MORE WAR BONDS AND STAMPS

Luxaire

WARM AIR FURNACES . . AIR CONDITIONING UNITS . . COAL . . GAS . . OIL
THE C. A. OLSEN MANUFACTURING CO., ELYRIA, OHIO



A DEPENDABLE
SOURCE OF SUPPLY
FOR 84 YEARS

Thanks--

FOR YOUR COOPERATION

All of us can be proud of the job our fighting men are doing. And they are proud of us, too, for the way in which we are cooperating with them by producing the war equipment they need—buying bonds—collecting scrap—and helping in numerous other ways.

In the sheet metal industry, for instance, one of the heartening accomplishments of the past two years is the way in which you have proved yourselves equal to the problems imposed by war. At the beginning, material shortages, priorities, etc. caused all of us considerable confusion, inconvenience and worry. Today, we have settled down to the big and serious task of helping the war effort—and we're doing a good job of it. Let's keep it up until our boys come home again.

THE J. M. & L. A.
OSBORNE Co
CLEVELAND, OHIO
BUFFALO • CINCINNATI • DETROIT
Manufacturers—Distributors of Metals and Metal Products



ALL STEEL COILS

To save the more critical materials, it became necessary to make Heating and Cooling Coils of steel. . . . Aerofin tackled the problem and, in its thorough way, spent days of research in the developing of the most efficient and durable Coil possible. . . . The construction of the *Aerofin All Steel Coils* is such that it will meet with the approval of all engineers.

— CONSTRUCTION —

Heavy wall tubes (.049" thick). Complete solder coating over the outside of the tubes and fins (preventing external corrosion and effecting a permanent bond between tubes and fins). Brazed joints between tube and header. Piping connec-

tions welded to headers. Heating coil tubes offset to relieve expansion strains.

All such details were worked out to make *Aerofin All Steel Coils* give the maximum results under wartime conditions.

AEROFIN CORPORATION

410 S. GEDDES ST., SYRACUSE, N. Y.

Chicago

Detroit

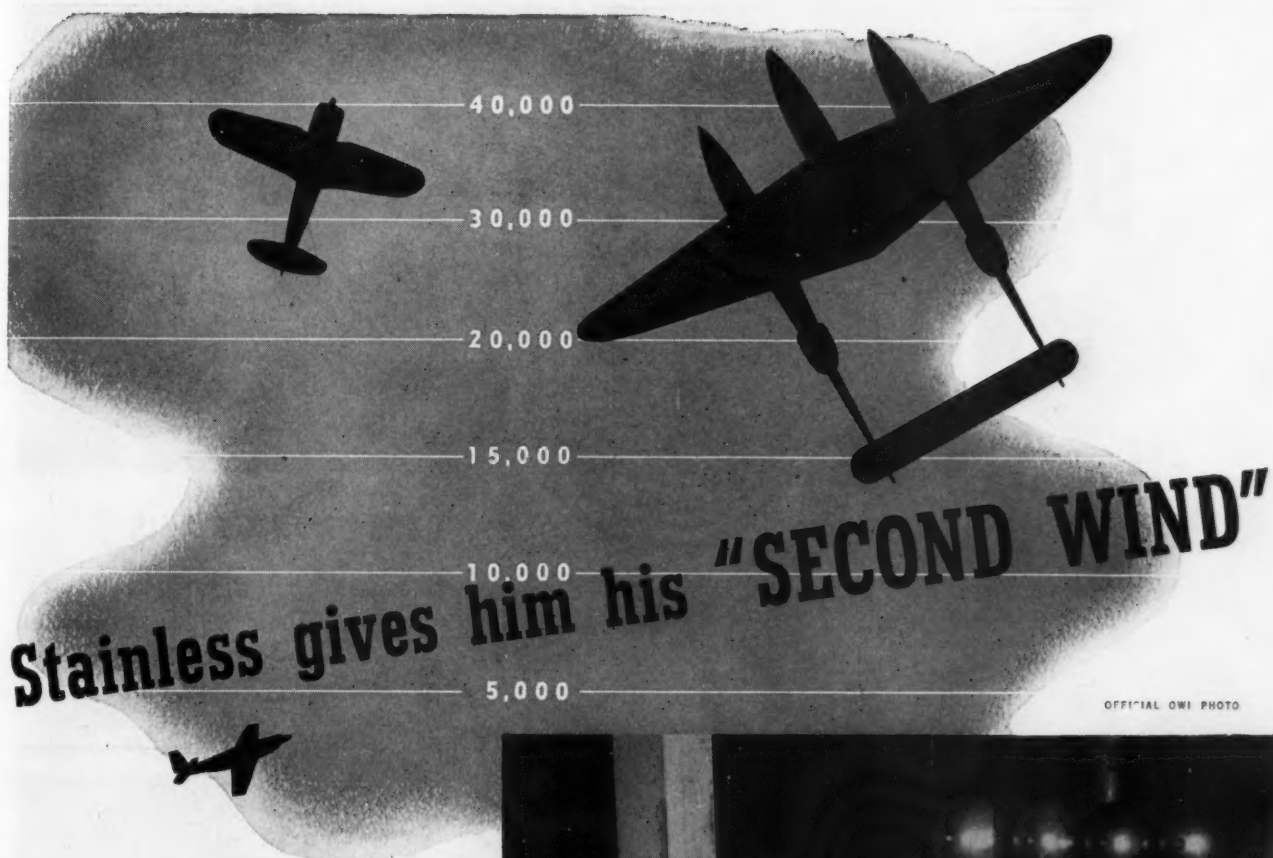
New York

Philadelphia

Dallas

Cleveland

Toronto



OFFICIAL OWI PHOTO

When a sky fighter is soaring 15,000 feet up, normal breathing is impossible. The air becomes rarefied, thinner and thinner. He must get his "second wind"—at least 50 per cent pure oxygen—from cylinders made of stainless steel.

Oxygen tanks, with their tubes and masks, are standard equipment for our high-altitude fighter pilots and bomber crews. Many of these vital tanks are made of ARMCO Stainless Steels.

These tough, durable metals take the job in stride. Each tank is factory-tested at 700 pounds hydraulic pressure. Now and then one is taken from the production line for a ballistic test. The metal must not shatter into deadly shrapnel when a bullet crashes through the tank.

ARMCO Stainless Steels are used in oxygen tanks because they assure great strength with light weight, and corrosion resistance. These same qualities of ARMCO Stainless will mean opportunities for your peace-time work; so keep it in mind for future job-getting efforts. The American Rolling Mill Co., 1621 Curtis St., Middletown, O.

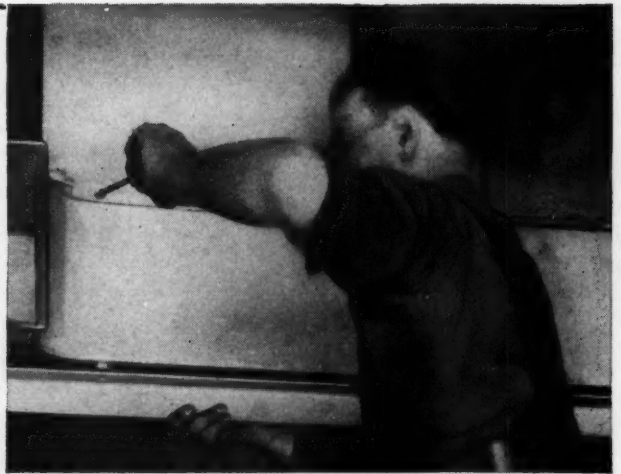


THE AMERICAN ROLLING MILL COMPANY



DO YOU KNOW

all these Fastening
"Short Cuts"?

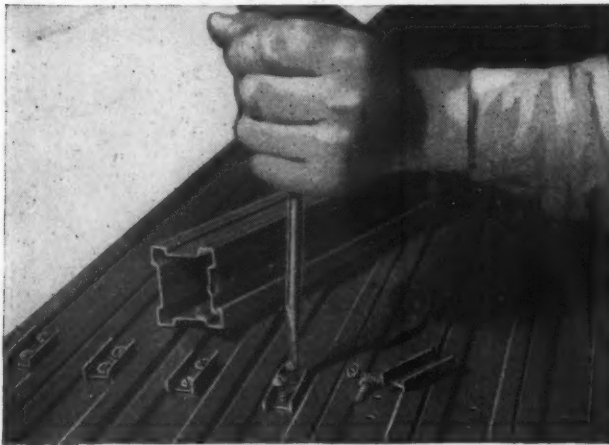


OF COURSE YOU DO THIS



TYPE "A"

For what sheet metal worker doesn't use P-K TYPE "A" Sheet Metal Screws to fabricate ducts, and for similar light (up to 18 gauge) sheet metal work?



BUT, DO YOU KNOW . . .



... that with Parker-Kalon TYPE "Z" Screws you can make fastenings just as quickly and easily to heavy gauge (up to 6 gauge) sheets, and even angle iron up to $\frac{1}{4}$ " thick? Keep Type "Z" on hand . . . use them just like Type "A" in a plain drilled hole.



AND, HERE'S A REAL SAVER . . .



... P-K Hex Head Self-tapping Cap Screws that make it a cinch to fasten to heavy plates and structural shapes up to $\frac{1}{2}$ " thick. (Fine for sheet metal, 24 gauge to 6 gauge, too.) Try this type once . . . you'll say good-bye to harder riveting and bolting on a lot of jobs!



TYPE "F"



TYPE "U"

SEVEN different types of P-K Fastening Devices are ready to help you do your work the easiest way . . . do it better, too! Know them ALL . . . tell us what you want to fasten and we'll send free samples for a trial. Parker-Kalon Corporation, 190-192 Varick Street, New York.



SCREWNAIL



MASONRY NAIL

PARKER-KALON *Quality-Controlled* **Self-tapping Screws**



We Have Settled Down to Winning the War

AS 1943 reaches its half way mark, the general situation facing this industry remains pretty much the same as it was at the beginning of the year—and not much changed from 1942. Briefly, the picture seems about like this—

Civilian residential construction of the type of house from which we obtained most of our profitable work continues to be prohibited and probably will remain so for the rest of the year.

Construction of new war plants, from which many firms obtained large contracts, has reached its peak and from now on will fall off rapidly.

Reconstruction of old plants for new war work, where we obtained ventilation, fume removal, dust collecting and weather protection, is very spotty. We seem to have most of the facilities required except that new plane production is still on the rise and plants for production of parts and assemblies are still being opened.

Government financed and government sponsored privately financed war worker housing is still critical and necessary in many war areas and the National Housing Agency reports several hundred thousand housing units required. Generally, critical materials will be held to the minimum for these units and furnace requirements have not been raised from the 80,000 units announced at the beginning of the year.

There has been some overall easing in the sheet situation. In some areas contractors seem able to get all the sheets required and with low priorities; in other areas contractors report jobbers do not have the sheets to fill low rated orders. Probably, and slowly, this stock pile will be leveled off. The big problem in many areas is to find permissible uses for the sheets available.

Customary sources of supply for furnaces for replacement purposes is still uncertain. Some manufacturers cannot furnish equipment; others seem able to fill orders. Steel furnace production still faces the question of whether L-22A will be extended, revoked, or rewritten to permit manufacture. No one seems to have any answer.

Manpower problems are getting more acute month by month. The armed forces continue to take young men. There is a growing migration

of mechanics from our shops to war plants where the men can get much overtime—with less required work. We can use women for machine work, but all-around mechanics are gone and cannot be replaced. Young men below draft age are more interested in getting training and work in war plants than starting long apprenticeships in our shops. Older, retired men are coming back in some cases, but going into war plants in most cases.

There is no sign of any easing up in the volume of paper work required to do business. As a matter of fact, we now hear frequently of demands for thirty and more copies of all paper work instead of the seventeen copies which was the high water mark of a year ago.

Faced with this situation, contractors may elect to do one of two things. First, decide to stay in business on the reduced materials, equipment, manpower available which means mostly repair and maintenance work and extended service for heating equipment and house repairs. There is a large volume of this work waiting; the man who can do it and has the stamina to operate twelve or more hours a day on five and ten dollar orders can survive. Most important, this service is essential to winning the war.

Second, renew efforts to obtain war product sub-contracting. More and more contractors are reporting successful efforts to get "bits and pieces" of boat work, plane parts, machine parts, and a thousand and one pieces needed everywhere.

In this connection, we suggest a careful reading of Arnold Kruckman's Washington Letter in this issue. His report is not a glowing picture of easily obtained success—but the report does show that important persons in government are now awakening to the fact that the country can't survive without some amount of civilian production.

And, as Mr. Kruckman points out, Smaller War Plants Corp. has been given a blood transfusion and may be helpful. If you have not visited your local SWPC office for months—do so now and be sure to tell the men in charge what you have,

(Continued on page 40)

Interpretations, Amendments, Easements To Existing Orders

Terne for Repair

USE of terne plate for maintenance and repair of roofing is permitted under Order M-21-e as amended May 3 by WPB. This change was recommended by the Building Materials Division as necessary to keep roofing in a good state of repair.

Other changes made by the amended order are as follows:

1. The definition of the terms "short ternes" and "long ternes" is clarified. "Short ternes" means steel sheets coated with lead-tin alloy on tin mill coating machines. "Long ternes" means steel sheets coated with lead-tin alloy on sheet mill coating machines.

2. The use of hot-dipped tin plate and electrolytic tin plate for current controllers—these are parts of signal cells—is now permitted.

3. A new schedule (Schedule B), added to the order, permits the sale of furnace pipe and fitting material in inventory on May 16, 1942, but only for maintenance and repair.

4. It is made clear that all materials exempted from the provisions of Order M-21-e may be used only for purposes for which iron or steel is permitted by other WPB orders.

5. Black plate or sheet steel coated with lead recovered from secondary sources and containing not more than 2½ per cent residual tin are exempted from the provisions of the order. This change was requested by the Conservation and Tin-Lead Divisions.

6. Forms PD-611 and PD-613, relating to long ternes, need no longer be filed. The Steel Division called attention to the fact, however, that monthly reports on Form PD-612 must be filed by producers and PD-614 by purchasers (including purchasers of materials on Schedule B). Form PD-767 must be filed by producers when it is necessary to revise production schedules.

Truck Tires

AN ELIGIBLE truck operator who is unable to get rationing certificates for new tires because his War Price and Rationing Board has exhausted its quota may now obtain certificates for used tires instead. OPA has authorized local boards to issue truck tire certificates without regard to quota restrictions. Previously, all certificates for truck tires were charged against quota.

Replacements, whether new or used, still can go only to vehicles included in List A in the tire rationing regulations. This list covers trucks and other commercial vehicles doing work essential to the war effort or public welfare.

Certificates for used truck tires will be issued only when the local board is assured by the applicant that the needed tires are available, since stocks of used

truck tires in trade channels are relatively small and spotty.

Procedure for getting a used tire is the same as for new tires. First an OPA inspector must recommend a replacement, which he will not do if the tire on the wheel can be made serviceable by recapping. But if a replacement is recommended, the applicant then goes to his local board, which, if it determines he is eligible, issues the necessary rationing certificate.

Up-rating Changes

USE of allotment numbers as an up-rating device for obtaining non-controlled materials will end on June 30, 1943. This action was taken in CMP Regulation No. 3, as amended.

Orders placed during the second quarter, accompanied by preference rating and allotment number, will continue to be "up-rated" orders. However, the application of an allotment number to a rated order after June 30, 1943, will not have any effect on the rating. For example, an order placed in June with a rating of AA-2X to which an allotment number is applied in July, and an order placed in July with a rating of AA-2X and bearing an allotment number, will both be deemed equal in rating to orders rated AA-2X to which no allotment number or symbol is applied.

This means that the top preference ratings for orders placed after June 30, 1943, will be: AAA, AA-1, AA-2, AA-2X, AA-3, AA-4, AA-5, etc., regardless of whether or not they are accompanied by allotment numbers.

Oil for Hot Water

APARTMENT houses, rooming houses, hotels and similar residential buildings using fuel oil for hot water purposes only henceforth will be eligible to receive extra rations if basic hot water needs have increased, the Office of Price Administration announces.

Up to the present, adjustment of hot water allotments has not been permitted for these residential structures, which are defined as "residential premises other than private dwellings." However, experience has shown that in some cases larger rations are needed as the number of occupants living in the dwellings has increased since the original ration was issued.

Previously (Amendment No. 45) OPA provided for similar adjustment of rations for apartment houses and similar residential buildings using oil for both heat and hot water. The present action—contained in Amendment No. 62 to the fuel oil ration regulations (Ration Order 11)—extends this provision to consumers using oil only for hot water.

Amendment No. 62 is effective May 13, 1943.

AMERICAN POST WAR

Studies of basic post-war data
ning future product design,



ARTISAN'S SEMINAR

to guide executives in plan-
distribution and installation

The Dealer Situation In War and Post War

(Analysis by C. E. Price †Before N.W.A. H. & A.C. Ass'n June Meeting)

THE post-war possibilities of residential heating and air conditioning are great. There seems to be little question that we will have a huge new home-building boom and that there will be vast replacement opportunities in existing homes for the products of this industry. And now we have the promise of a publicity and educational program* which should greatly expand the tremendous sales already guaranteed by such a potential. We can be very enthusiastic about what's ahead of us.

But, like most good things it isn't going to be handed to us on a platter. We have to be ready for it, and if we're not, get ready for it. We have to relate the general program outlined* and all the possibilities we see ahead to our own individual businesses and get set to do something about it.

It is said, for example, that 900,000 warm air furnaces will be sold per year after the war. You as an individual manufacturer want to sell of that total as many of *your* furnaces or *your* products as you possibly can. That has always been your job. It will be your job again. It always presented problems. It does and will again.

Two very specific problems, you will have to meet—if not now, certainly later—concern:

- (1) Your product;
- (2) Your distribution.

As for product . . . we hear a great deal about new products. We hear about them in connection with new manufacturers. We hear about them in connection with "prefabs" and other housing developments. And we're going to have them in some form and we're all going to have to consider them in our planning. Lately, I think fortunately, there's been a refreshing wave of common sense sweeping through the country regarding many of the radical predictions of what we may expect along these lines. You can get a very practical idea of the kinds of heating plants and kinds of houses expected in the immediate post-war period in your Association Page in the May issue of AMERICAN ARTISAN. In it George Boeddener reports the composite opinion of a number of manufacturers, and I think it makes sense.

But that's not my subject . . . product. You must have it . . . and the right one . . . but I mention it only in order to get into my assignment on the dealer situation. You can't think very long about what you're going to have to offer the public without thinking of

how you're going to get it to the public.

And that, I take it, means a dealer.

When you are ready to resume unrestricted manufacturing, you want orders. You need someone to whom to ship . . . someone out on the firing line who has contracts for the heating and air conditioning of the new homes that are going to be built . . . someone who has customers in existing homes for replacements and modernization . . . someone who can sell, install and service your product.

You had that someone in the years before the war; you had him when we entered the war. So, in thinking of your dealer problem, the first question to raise is—what has happened to the dealer?

A Two-Part Subject

I think what's happened to the dealer is a subject that logically divides itself into two parts . . . (1) the warm air heating dealer, discussed primarily from the point of view of the furnace manufacturer; (2) all kinds of dealers in the heating industry, discussed from the viewpoint of all manufacturers . . . those particularly whose products may fit all divisions of the industry.

First, then, the warm air heating dealer and the furnace manufacturer.

What Has Happened to the Warm Air Dealer?

As you think ahead and make your plans, a logical first question to ask yourself, as I said before, is . . . What has happened to my dealer organization? While I have been converting to war production, pulling my salesmen off the road, trying to get along on a drastically cut down furnace manufacturing quota, have I maintained my dealer organization intact? Semi-intact? Or lost it completely?

Obviously, those of you who have maintained it are ready to pick up the ball and run at the gun. Those of you who have part of it intact are ready to go to that extent. And, those of you who have lost it or never had it and have to start from scratch and build a complete new dealer organization . . . you have a job.

Of course, you really all have a job.

You know that two years of war have put their mark on the dealers of this industry and every other associated industry and that your dealer organizations, therefore, aren't as you last worked with them. With material shortages and manpower shortages, many have quit and gone to work in defense plants.

*I. C. I. plan, presented by Paul Zimmerman.
†American Artisan, Chicago.

NUMBER OF KEY DEALERS 137 CITIES--- 29 STATES

1937---636 KEY DEALERS

1939---842 KEY DEALERS

1941---879 KEY DEALERS

1943---598 KEY DEALERS

FURNACE SALES

1937	-----	373,772
1939	-----	428,094
1941	-----	517,610
1942	-----	225,715
1943	-----	?

Chart 1

Many have gone to war—in the army, in the navy, in government jobs. Many have converted 100 per cent to war production, just as some of you manufacturers . . . gone out of the heating business . . . because with sheet metal shops and equipment they have been in position to get and handle such contracts.

You can all cite examples of the war impact on large operators, medium-sized and small ones. It's been no more fun to be a dealer in war time than it's been to be a manufacturer; and that has certainly not been a lot of fun. We have talked to hundreds of dealers and could go over many individual cases, but you're familiar with them, or can guess, and want, I believe, to know what you have and are going to have to work with rather than a lot of conversation about the hardship cases. Let's talk about those who have weathered the storm, are still in business and are as interested and concerned as you are in cashing in on the opportunities ahead.

Frankly, I don't see how you can get away from the fact that it will be those dealers . . . and only those . . . who can be the ones to get you started. We can romance about new types of dealers . . . we can count on many who have left their businesses for one reason or another to return and start again . . . but there's going to be a time lag for developments of that sort. You wait for them to become established. Those who are "in," though, are ready. They will have the first contracts, the first orders, because they will have been working on them, and the better you all synchronize with them on getting under way the

Right—Chart 2

less time you will have to wait and the more valuable it is going to be to all concerned.

The "Key" Dealer

The specification information that might be helpful in your planning which we can give you concerns what we have always called the "key" dealers. It's a well known fact that 25 or 30 per cent of the dealers do 75 or 80 per cent of the business. We assume that when you go into a town . . . or your jobber goes into a town . . . you want the top dealer there, if you can sell him, the next one if you can't, and so on. In every town or city there are two, three, fifteen, thirty dealers who sell, say, 80 per cent of the furnaces sold there. That is, 80 per cent of the independent-dealer-sold furnaces. We're not talking about any other kinds of furnace outlets or methods of distribution not involving an independent dealer.

It has been our business for years to identify these top dealers and follow them from year to year. We thought it would help you to plan ahead if we recalled to you your dealer problems when you could manufacture without restrictions and when your sales volume depended only on how good a selling job you did . . . not on how much material you could get. So we have here a picture (Chart 1) of the top dealers in 137 cities, scattered through 29 states . . . a sufficient sample, I'm sure, to make a case . . . and we can show you what has happened to them, starting back in 1937, in regard to numbers, in regard to the job you manufacturers did in lining them up, in regard to the job you did in holding them.

Remember . . . I am talking about those in the top 80 per cent volume group and whoever they were . . . straight warm air heating contractors, combination heating and sheet metal shops, specialty dealers, oil burner dealers, steam and hot water heating contractors or what not . . . they were the fellows selling the

DEALER TURN OVER

NUMBER IN BUSINESS-1937

BY 1939...
A 31.7% MORTALITY

DROPPED

NUMBER IN BUSINESS-1939

BY 1941...
A 35.8% MORTALITY

DROPPED

NUMBER IN BUSINESS-1941

BY 1943...
A 32.0% MORTALITY

DROPPED

furnaces at the time or the year we checked their towns.

Mortality Among "Key" Dealers

Here they are (Chart 1) in 1937, 1939, 1941 and 1943 as furnace sales in the whole country went from 373,772 units to 428,049 to 517,610 and back to what in 1943? It was 225,715 in 1942.

In those cities in 1937 there were 636 dealers doing this majority we're talking about of the warm air furnace business . . . in 1939 there were 842 . . . in 1941 there were 879. As furnace sales in that four-year period increased 38.4 per cent, number of top dealers increased 38.2 per cent.

Thus, in an expanding market at any time and after this war is over, we can expect an increase in number of dealers . . . which, of course, is no profound discovery. You know that. That doesn't get away, though, from the fact that at the outset . . . and in getting ready ahead of time . . . you must work with what you have.

And that, we see here in these cities, where the figure now in 1943 is 598, is a 32 per cent or approximately one-third drop from 1941.

Now that's not bad . . . and here, perhaps, we have discovered something . . . war, to date, has been responsible for a loss in numbers of good dealers no greater than in any of these other periods. For, look at this chart (Chart 2), there was a 31.7 per cent mortality between 1937 and 1939 . . . a 35.8 per cent mortality between 1939 and 1941 . . . and a 32 per cent mortality between 1941 and 1943 . . . approximately one-third each period. In other words, while we've lost a third of our good dealers in the last two years of war, we lost a third of them every two years before the war, too.

So, on that basis, we aren't so bad off. We apparently haven't lost any more than usual. We're accustomed to it. The decrease in total number at this time, therefore, isn't due, to use a population term, to an increase in the "death rate"; it's due to a decline in the "birth rate" . . . new dealers aren't coming in as they do under better conditions, and as they did before to account for the over-all increase in the face of these losses.

A Strong Nucleus Remains

Now, I grant you . . . and it may be in the minds of some of you . . . if this were going to be proved by mathematics or statistics, as it's beginning to appear, we could carry the curve to where in another two years we will have lost another third and so on to the diminishing point and we'd have a complete new deal in 194X. But . . . the big majority of those in business today were on the job in 1941 and 1939 and also in 1937. Losses each year, therefore, are mostly among new ones who come into the picture and if that is true, losses stop when the reason for them stops. I'm not trying to say we haven't lost any old "key" dealers and that all new ones who come in don't last, but what I am driving at is that the two-thirds group who have stayed in business and are in business today have proved their durability in pre-war and war years to date and we don't think, on the basis of that evidence, that there is going to be a further mortality of any such proportions among this group.

So there is a solid nucleus of established dealers who seem to weather most storms and, if our studies in these 137 cities through four years of normal pre-war conditions and two years of war mean anything, you have today and will have tomorrow about the same

NUMBER OF KEY DEALERS PER MANUFACTURER 137 CITIES 1939

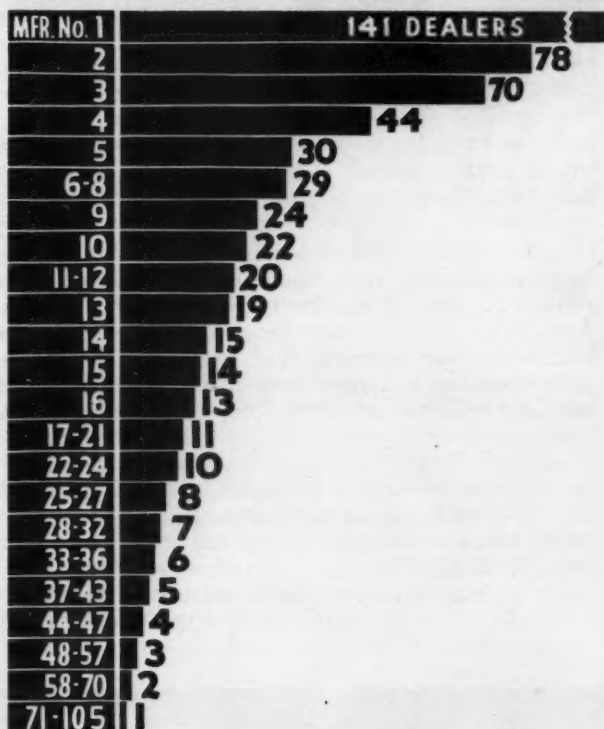


Chart 3

number of dealers to start you off as you have in any year of your business . . . if you discount the mortalities of those other years. Again I say, these are your sure bets . . . the ones to be thinking of and working with today. As time goes on in post-war years we're going to have these numbers increase, but the fellow who said a bird in the hand is worth two in the bush had something.

A Job to Get Them

Now, if you will agree that they are your hope and your opportunity . . . at least until something better comes along . . . let's consider your chances of doing a job on them in the light of what you did in lining them up in pre-war times. One year's example is sufficient. Here in 1939 (Chart 3) . . . you can see 105 different furnace manufacturers had one or more of these key dealers in these 137 cities. One manufacturer had 141. One had 78. One had 70, etc. Only twenty-four had 10 or more dealers and these twenty-four had 72 per cent of all the dealers. Thirty-five manufacturers had only one each.

So remember when you have designs on the two-thirds of the good dealers who are still on the job and on those who will appear later, you're not alone. Other manufacturers have the same designs.

A Job to Hold Them

There's still another phase of the dealer problem to remember and try to guard against. That's the loss of your dealers to other manufacturers. You do a good job lining them up; then, in addition to the kind of

mortalities we have already discussed, your dealers shift to other lines. You can see in this chart (Chart 4) . . . one out of five of these top dealers who had a certain line in 1937 had a different one two years later in 1939. Between 1939 and 1941, the turn-over in this respect was 16.2 per cent.

So when you get them, you have to hold them. If they're good, others are after them. And that's in normal times. You will note we have a question-mark on the percentage of shifts that happened between 1941 and 1943. We don't know. But let's try to figure that one:

We do know that as the supply of furnaces tightened up, all dealers weren't sticking to any particular furnace line. They were buying furnaces wherever, however and from whomever they could get them.

So let's realize that they might still have your sign in their windows, their names on your books as your dealers . . . but, if you don't know, if you can't absolutely count them in your bag, you can judge for yourself what your contract, your franchise or whatever understanding you may have had with them means now and might mean later. They have been forced to look elsewhere to meet some of their current needs. They have had and will have the time and opportunity to compare, review and plan ahead what they want to do. So it undoubtedly has had more than the normal effect we have just shown you, and we can well wonder . . . though there are still a lot of substantial dealers . . . if any of you can really call any of them yours.

We don't say it's that bad. We mention it only to

make you think of it if you haven't already. Inevitably you have had to disappoint your dealers, through no fault or wish of yours. You may have . . . let's hope you have . . . handled the situation in a way that cemented a loyalty which cannot be upset. You may, on the other hand and through, again, no fault of yours . . . or, let's be honest, perhaps through some fault of yours . . . alienated many of your dealers . . . and someone else will get the nod when the time comes.

The Temper of the Dealer

You know, these dealers are out around the country, trying to preserve their businesses. They have been without the representation in Washington and the Association facilities enjoyed by you manufacturers to help them solve their problems. Material shortages, priority regulations, manpower difficulties have beset them. And in all too many cases they haven't had much help or much advice or much show of interest from their sources of supply. They haven't seen a salesman . . . if they've had any correspondence it's been mostly telling 'em—"No, you can't have it." They may be unreasonable, but that's all in the point of view. They feel let down.

We talk to a lot of them. One typical small town dealer in Ohio is very resentful of the ceilings of OPA and his inability to secure materials on A-10. His volume has always been about 60 furnaces annually for replacement and a few more for new houses. He doesn't get them. He seems to have the idea that his manufacturer could have done better for him.

Another dealer, in a larger city, who for the last three pre-war years averaged 400 new homes annually . . . practically all of them winter air conditioning jobs . . . has seen his 36 journeymen dwindle to one through the draft and defense plant jobs, has seen building largely stop, but he and his partner have made money and they can survive on a greatly reduced scale. He has very definite ideas of the kind of equipment that will be profitable in his area in the future and is decidedly wide open to the source of supply that can show him they have it.

I was talking to a good one up in Milwaukee not long ago. This firm was very busy on new work for several years prior to the war and seemed to be able to get furnaces and materials to keep them going right through 1942. They have now, of course, had to conform to current conditions . . . are doing a lot of repair work they never bothered with before, are keeping their sheet metal shop busy. But the owner was sort of gloomy—and when I asked him if his manufacturers or anyone could give him any advice or assistance, he said that right from the start he had been unable to get any information to help him from either manufacturer or jobber—they didn't seem to know what it was all about. He did say emphatically, though, that he'd get by and wouldn't think of quitting because he's already tied up with a couple of builders who have bought acreage and are ready to go at the first moment with the building of hundreds of homes . . . which, of course, he will heat. He's also keeping a record of all his repair jobs and is lined up for a lot of replacement business after the war. He doesn't know what kind of furnace he will handle. He's waiting to be shown what's on the market.

And there's the dealer . . . this particular one in New York State, but there are plenty of them in all states . . . whose son, a graduate engineer in business with him, has gone to war, whose journeymen have been drafted or left him for the aviation plant. For

DEALER SHIFTS

NUMBER IDENTIFIED WITH SPECIFIC LINES---1937

BY 1939: 20.5%
Shifted to other lines

Switched

DROPPED

NUMBER IDENTIFIED WITH SPECIFIC LINES---1939

BY 1941: 16.2%
Shifted to other lines

Switched

DROPPED

NUMBER IDENTIFIED WITH SPECIFIC LINES---1941

BY 1943: ? %
Shifted to other lines

DROPPED

Chart 4

DIVISIONS OF RESIDENTIAL HEATING & AIR CONDITIONING FIELD

	WARM AIR	STEAM & HOT W.	CONV. OIL BURNER	CONV. STOKER	GAS	SPECIALTY (PLUG IN MOSE.)
	Unit Sales	Unit Sales	Unit Sales	Unit Sales	Unit Sales	Unit Sales
1937	373,772	183,378	193,057	87,451	--	--
1938	360,000	151,842	176,340	84,629	--	--
1939	428,094	168,069	211,532	90,108	105,000	--
1940	483,467*	188,441	197,261	136,004	125,000	--
1941	517,610**	195,508	197,690	175,844	150,000	--
Totals	2,162,943	887,238	975,880	574,036	--	--
	*OIL-FIRED--40,531 ; GAS--76,075		**OIL--66,262 ; GAS--155,202			

Chart 5

the first time in 25 years he's had to put on the overalls and go to work with the tools again. But he's going to have that business there for his son when he returns.

And so it goes, gentlemen, and we must say in all seriousness that we don't get the impression in many of these cases that they're putting on the overalls to be ready for you. They're not meeting these situations in whatever way they can and maintaining an open door to the home owner and home builder for anyone but themselves.

And may I be excused while on this subject of the dealer's temper if I note in passing that the effect of a new name is apt to be quite significant under such conditions? I mean, of course, the new manufacturers who see in this industry an opportunity to come in with a new line, a complete merchandising plan, a dealer proposition that makes sense and promises real profit opportunities. Some dealers, at least, are going to be ripe for it after their experiences . . . real or fancied . . . with their old sources of supply.

To conclude this particular phase of the discussion on a more optimistic note . . . and I trust you will accept what I have just said as no attempt to criticize any one; I'm still in this discussion just trying to

review the dealer situation for you as we have found it and this is it on this point of dealer shifts . . . I will cite you one of your number . . . a furnace manufacturer . . . who has really moved in on this problem.

He quickly and early in the game foresaw not only all the difficulties that were to surround the business of both manufacturer and dealer but also the post-war possibilities of a big volume in the particular area he served . . . which happens to be a small one. He analyzed these possibilities, put them in a presentation; analyzed his line, fit it into these possibilities, got his story ready on it. Then, he selected the dealers in this territory that he knew were live-wires and approached every one of them with the proposition that together they try to meet current conditions that would arise and particularly work to the end that when the time came they would be ready to capitalize on the possibilities he showed them.

He and they have had their troubles . . . and their losses . . . but he and his representatives have done all they could to dig up materials for these dealers, have helped them get high priority business, have studied together things that might be done to meet this or that emergency . . . and have never lost sight of the goal

(Continued on page 77)

TOTAL UNIT SALES FIVE YEAR PRE-WAR PERIOD - 1937-1941

WARM AIR FURNACES

2,162,943

STEAM & HOT WATER BOILERS

887,238

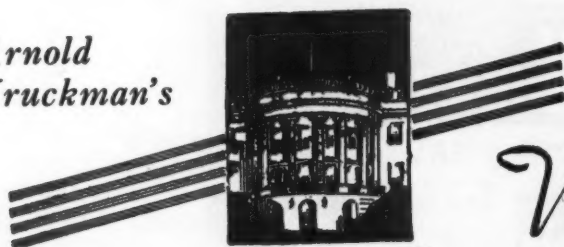
CONVERSION OIL BURNERS

975,880

CONVERSION STOKERS

574,036

Chart 6



The Work-For-Small-Shops Situation

THE Smaller War Plants Corporation is now on its own. It is no longer a part of WPB nor subordinate to WPB. The bill of divorce was signed by Brigadier General Johnson and Donald Nelson in May without much fanfare. The publicity issued by OWI was so brief and casual that it seemed unimportant. But it was not unimportant in the opinion of the people in the Capital. Nelson originally made as much fuss about the impropriety of making SWPC a unit independent of WPB as he has been making over the separate organization of the Civilian Supply Administration. The independence of the Smaller War Plants unit was really the rock on which he split with Odum.

SWPC Divorced From WPB

Odum saw clearly that smaller independent business needed its own separate war emergency Government unit and that it needed a certain amount of the critical materials in order that independent smaller civilian industry might survive. The striking fact is that the Smaller Business unit has now been made independent, and it is still more striking that there are sound reasons for feeling that the industry it serves will be allocated a definite proportion of materials so that the smaller units unable to secure war business may survive by making supplies for the civilian economy.

Nelson obviously has begun to realize he tried to reign over too large an industrial empire. He may have hoped that in surrendering the SWPC he might prevent the establishment of an independent Civilian Supply Administration. Army and Navy do not want an independent Civilian Supply Administration, and it is quite evident Nelson has finally made his peace with Army and Navy.

Without benefit of official confirmation, you get the impression from responsible persons in WPB that Army and Navy now have their way in WPB. Bear in mind, also, that Gen. Robert W. Johnson, although head of Johnson & Johnson, started his war Government career as an officer in the Army, and he still is an officer of the Army. Also please bear in mind that the facts recited above do not imply anything the words do not say. You are given the picture in order that you may clearly understand the situation. The business community out in the country often goes haywire in its thinking because it does not understand the internal relations in the set-up.

It seems to us here in the Capital that the people who do the fabricating in the light gauge sheet metal industry need such understanding. There are many reasons to feel that you are not quite certain what

this Smaller War Plants Corporation under its new direction and its new incarnation may mean to the future of your industry in terms of contracts. To be quite nakedly frank, neither do we here in Washington. We are inclined to think you have much more reason to hope for more business and for less run-around. At this time we are not able to give you a report based on certainty. In the past we have been fooled just as you have been fooled by the reports we have transmitted in all good faith. And we are inclined to believe in the past we were not misled by intention, but that those upon whom we relied were misled because they enthusiastically believed they could accomplish what they planned. The separation from WPB should make it possible to avoid pitfalls that stymied the efforts of those who earnestly worked in your interest.

Much Talk—Now Need Action

Logically it is natural to regard Gen. Johnson as the answer to future success or failure. He is running the SWPC show. Those who have consistently worked for independent smaller business here in Washington for the past years feel that Gen. Johnson has been going through all the motions which mean he is on the right track. But they emphasize that his actions so far have chiefly been motions. Odum and others also went through the motions. They were unsuccessful.

But in all fairness to Johnson it is proper to suggest that he is the first to achieve the decisive step of disentangling the agency from the domination of WPB. From here out the sympathetic observers will be convinced, when he transforms the motions into actions that spell actual business for most of the smaller units which heretofore have not been able to secure either war work or materials and help to do civilian work. He knows, as you know, that kind words do not butter parsnips and that hopes do not meet payrolls.

District Offices Can Now Help

Gen. Johnson is well aware that he starts with two strikes against him expressed in terms of confidence. But fundamentally he can do little to make his plan work except to use the implements and the channels that his predecessors have used. However, he has one great advantage: his agency is on its own. Practically, this means that the men in his 129 district offices likewise are on their own. They have no other bosses than Gen. Johnson and his staff. And they have no other tasks than to work for the benefit of those who are served by the Smaller War Plants Corporation.

In the past the needs and problems of smaller business were merely a part of a much more complex job. They worked for the various Divisions and Sections of WPB as well as for SWPC. This was the reason why smaller business men often found that the people they went to see in their District Office were harassed, overworked, and frequently knew almost nothing about the help they were supposed to give the clients of SWPC. Under present circumstances the SWPC men in the District Offices—you still find them in the same quarters with WPB men—have nothing to do but to look after your problems. And under present circumstances most of the burden of actively serving you in your district falls solely upon the District men. The Washington headquarters are staffed with people who do the national administrative work. The actual executive tasks have been delegated to the field. Johnson strives daily to make the decentralization more complete.

How SWPC Finds Work to Be Done

Philip B. Hofmann, president of Ortho Products, Inc., Linden, N. J., has been appointed Deputy Director to organize and service the District and Regional offices. The system of distributing opportunities for contracts operates like this: the Washington headquarters daily receive the current and latest information about potential and prospective contracts from the procurement offices of the various agencies of the Government. This means the Army, the Navy, the U. S. Maritime Commission, the Food Administration, Lend-Lease, BEW, National Housing Agency Treasury, and all other agencies which are spending the billion dollars every three days, send their procurement specifications and blueprints and other studies to SWPC together with such information as may be available about actual or potential prime contractors and where the work is to be done or the purchases are to be made.

SWPC in turn tears down the data and classifies them in regard to subcontracts or contracts that may be performed by smaller business units; and SWPC organizes them in their relation to the 129 Districts around the United States. When the data have been thoroughly and swiftly processed, they are transmitted to the District officials where the procurement will actively apply. In theory these District officials are presumed to know where they may swiftly communicate with the fabricating light gauge sheet metal shops or plants in their area. The District officials are supposed to know the capacity and the resources of these plants. The District official also is expected to know exactly what the potential prime contractor may do, how he will handle his contract, and what his usual custom is in relation to the contracts. The District official, in theory at least, is supposed to have made a very complete study of the organization and operation of the plants of the prime contractors, and it is assumed the District official will be able to suggest how the prime contractor may speed up his job and share the work by subcontracting with the smaller business units in his area.

Contact Local SWPC Office Now

Meanwhile, the smaller contractor is expected to keep in touch with the District official. They tell you here to urge fabricators in each District to establish relations with the District officials. They suggest, moreover, if the small business operator is not within easy reach of a District office, to advise him to get in

touch with his banker, and to ask his local bank to get all possible information about potential contracts or subcontracts. They tell us here that the local banker can get the data quickly and accurately because SWPC has made an arrangement with the American Banking Association to act as distributors of the information on behalf of SWPC; and that the local bank can move swiftly to help the local fabricator to get a contract. There are 15,000 member banks in the Association, and there are other banks which correspond with the member banks. It is expected therefore that there is not a single community where contractors and manufacturers cannot make quick connection with the activities of SWPC. The use of the local bank is expected to build up channels of communication which will greatly expand the effectiveness of the work of SWPC. It is hoped it will bring the possibility of making contracts much closer to the home areas of the smaller business man who is eligible for the business.

Local Governments Have Work

SWPC also has established relations with State, County, and Municipal governments which should have work for smaller fabricators. It has been discovered, under present circumstances, considerable work of this kind has been left undone because the political subdivisions either have been cautious about crossing Federal Government operations, or they have not known where to go. SWPC has followed the same process in establishing relations with commercial and other non-government sources that may need services or products, but are uncertain about their privileges or how to proceed with assurance. The idea is that there is considerable undeveloped work of this kind which may be done with the approval of emergency Government agencies. SWPC naturally would lend its offices to help to secure materials and labor.

SWPC has further organized to secure the help of the Industry Divisions of WPB to facilitate the jobs to be done by smaller operators. In the case of our industry it would work closely with the Plumbing and Heating Division, and with the Plumbing and Heating Section of the Retail and Wholesale Trades Division of WPB, to secure priorities for the materials and equipment that might be urgently needed. In other words, SWPC would act as expeditor for the fabricator or the smaller contractor, so far as its status would permit it to do so.

Still Too Much Sheet Metal Facilities

Mr. Carl Bolte, who is in charge of the Industry Section, which includes fabricating of light gauge sheet metal, is very frank in declaring that present indications are that there are considerably more facilities than can be useful for war work. He reports that sheet metal and woodworking products are overstocked, and that the services offered are greater than the procurement specifications require. He insists, however that the contractor or fabricator who has the energy and initiative to go to the big contractor has at least an even chance to get some of the subcontracting. Bolte feels that there is much more potential subcontracting available than has been developed.

Apparently much of it remains under one roof mainly because of inertia on all sides.

You get the suggestion from utterly earnest and sincere people here in SWPC that the potential subcontractor now has many more opportunities than he

(Continued on page 72)

HISTORY OF THE

NATIONAL WARM AIR HEATING and AIR CONDITIONING ASSOCIATION

By ... ALLEN W. WILLIAMS

CHAPTER 3

RESEARCH PROGRAM ESTABLISHED

This chapter carries on with a speech being made by Professor Willard at the June, 1917, convention, titled "Advancing Furnace Heating." In the preceding chapter, published in May, Professor Willard pointed out three ways to advance the position of furnace heating—first, by perfecting the design; second, educating the furnace men; third, educating the public. In this Chapter he discusses these three points in detail and the special committee presents the contract which was to be the basis of the co-operative research which has continued ever since.

"(1) Methods of Perfecting the Design. Details of foundry and shop practice are beyond the scope of this paper. One unit of any given type of equipment is better than another if, with practically the same amount of material and labor spent in its production, it serves its purpose more efficiently. In the case of a motor, an efficient unit requires less current input for a given horsepower output; in the case of a steam engine it takes less steam for each horsepower developed; and in the case of a furnace it requires less coal, or an equal amount of a more inexpensive coal, to heat a house. The amount of operating attendance must, of course, be essentially the same in all of the above cases.

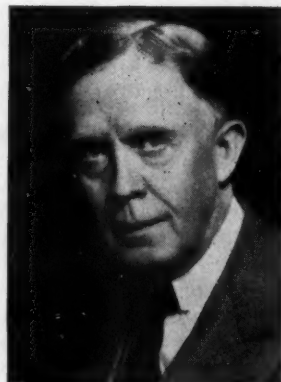
"This all means that efficiency, rating and capacity tests must be made *under such conditions as will actually occur in practice*. Other tests under special conditions may have some significance, but designs based on them may prove very disappointing.

"In the case of warm air furnaces, which in general operate as an integral part of a system of ducts, leaders, stacks and registers, all these factors must be taken into account and very definite restrictions placed on the general proportions and arrangement of the distributing part of the system.

"The University of Illinois has erected and is now equipping a plant for such a series of tests in which a complete gravity warm air furnace system can be tested. The University believes that the use of such systems of heating is sufficiently general throughout the state of Illinois and elsewhere to justify a considerable expenditure for the installation of a rather elaborate technical testing plant. This plant is a permanent installation in the heating and ventilating section of the Mechanical Engineering Laboratory which has just been finished and is now being equipped.

"The University will erect the plant and operate it with its own general staff insofar as possible.

President
A. C. Willard,
University
of
Illinois



Eventually we will secure such test data as will be required to determine the efficiency and proper rating of a few types of commercial furnaces but the number and scope of such tests, once the plant is set up and in operation, could be extended tremendously if a special staff could be provided to carry out a more comprehensive scheme. In fact, if this Association will consider and provide for the maintenance of such a staff the University will provide the plant with its technical equipment, and supervise the testing work in the same way in which it is conducting other cooperative investigations.

"These tests should include an investigation of, first, the furnace, and second, of the distributions system of leaders, stacks, and registers. Under the former classification would be included data on allowable rates of heat transmission per square foot of heating surface; suitable ratios of heating to grate surface; minimum smoke flue areas; flue temperatures; proper air passing area between radiator and casing; value of extended surfaces or fins on fire pots and combustion chambers, use of baffles inside of casing to deflect air over the heating surfaces, radiation loss from single, double, and jacketed casings, desirable modifications in arrangement of bonnet and leader pipe collars; and value of a cold-air pit.

"At the same time sufficient additional data could be taken to determine heat loss from leaders and single, double and jacketed stacks; allowable velocities in stacks; temperature drop between bonnet and register; effect of elbows in leaders and stacks; desirable pitch of leaders, and the proper relation between leader and stack area. It is evidenced that the scope of such an investigation is only limited by the time and the funds which can be devoted to it.

"The manufacturer, no doubt, has other problems for the solution of which still more data than that suggested above will be required. The above list is

merely suggestive.

"(2) **The Furnaceman.** The education of the furnace men who install this equipment is of vital importance to the manufacturer as already indicated. Any campaign of education must be simple, deal only with the practical or applied side, and yet provide for a fairly wide range of installation conditions. This latter fact makes it extremely difficult to formulate a simple code.

"As a check on the furnace man, it may be possible for the manufacturers (in order to reduce expense) to require that any system in which their furnaces are used shall be laid out in advance and the layout approved by their engineer. In other words, sell and trademark your service as well as your manufactured product. This sort of thing is being done by the temperature control companies, by the vapor and vacuum heating concerns, and in the special appliance hot-water heating field. If the public once had it impressed upon them that these approved or certified systems were dependable, would do what they pretended to do, the furnace man would have a convincing argument against the cheap, cut-price job which is now the source of so much dissatisfaction. The idea that a furnace installation is cheap, and can be installed by anybody under any conditions will, in the end, prove a most costly conception, and always afford the steam and hot water advocates a powerful argument in the unsatisfactory furnace systems to which they can point.

"**The Public.** Educating the public along any line is expensive, and in the semi-technical field it is both expensive and difficult. The University of Illinois is about to attempt something of this kind in the heating of homes, and is just issuing a non-technical circular on the 'Economical Purchase and Use of Illinois Coal for Heating Homes.' This is decidedly a new departure for the University, and just how much of such a circular the average householder will read, even after he gets it, is problematical.

"The public, however, seems to get most of its ideas about heating equipment from the next door neighbor, and if the neighbor has a good heating system, which can be operated with reasonable efficiency and attendance, it is worth more as an educational feature than all the circulars and comparative test reports ever written on the subject.

"This all means that it is up to the installer of a warm-air system, and back of him the manufacturer, to make every system an advertisement for and not against furnace heating. I do not believe the installer of the system will ever do this unless the manufacturers can compel him to sell intelligent service as well as a few hundred pounds of cast iron and steel made up into firepots, radiators, castings and leaders."

Informally Professor Willard went on to explain that the plant which was being erected at the University of Illinois would be ready during the summer and when it was, it was his desire that a committee from the Association investigate and inspect it and be satisfied that results could be secured along the lines he suggested.

The proposition was unanimously accepted.

President Green appointed the following members of the Association as that Committee: Edward Norris, G. D. Wilkinson, Frederick Will, A. W. Glessner, R. C. Cook.

It required more time than was expected to work out the details of the proposed Cooperative Research Activity and it was not until the June, 1918, conven-

tion of the Association that the committee could report as follows:

"Professor Willard has had prepared in a large laboratory building a skeleton three-story structure as nearly as possible resembling the conditions which would obtain in a house and it is possible to run pipes, under differing conditions, from a furnace which is set underneath in a position resembling the cellar. A good many ingenious things have been done in connection with this which we believe are new."

"This comes under an appropriation made by the University, through its state or national funds for research work. They have done a great amount of this work. They have done it in this way: They have cooperated with various trades, sharing the expense with certain industries and that is what they propose to our Association in connection with warm-air furnaces. Of course, we are all interested in seeing the furnace industry put on a more scientific basis.

"First: It will give us reliable data to present to engineers. We know that is lacking in the furnace industry today.

"Second: If this testing work carries on as well as it looks and as the prospects are, we will be more able to give information to heating contractors, and help them to make better installations.

"Third: We can send different types of heaters and have tests put upon them which will show the relative efficiency of different types, which will perhaps enable us to correct unscientific design and improve our design and work toward a higher level of merit in heating apparatus.

"The results will be somewhat deferred; they will come slowly. We will begin to show some results soon, but we must not expect to see the thing pay out big immediately.

"We have here a proposed contract, as drawn up by the Dean of University, which he suggests as a tentative form, and present it to you with the statement that it meets with the unqualified approval of the Committee who visited the University. It is going to cost us \$8,000 a year as a maximum. Professor Willard thinks that will be enough. He really talked about five, but some members of the committee thought it might run more, and that we better put it at a maximum, so that we would not be cramped in the work.

"All this is contingent on being able to secure the men to do the work, which is very doubtful. This is the proposed draft:

'Articles of Agreement between the National Warm Air Heating and Ventilating Association, and the Board of Trustees of the University of Illinois for a cooperative investigation of warm-air furnaces, by the Engineering Experiment Station of the University of Illinois, under the following terms and conditions:

'I. This agreement is executed for a period of one year beginning October 1, 1918, with the understanding that it may be extended for additional similar periods under the same or such other term as may be mutually agreed upon.

'II. The Engineering Experiment Station will supervise and direct all testing work and the computation of all results obtained; it will furnish the furnace testing plant now installed in the Mechanical Engineering Laboratory together with all testing instruments necessary in the in-

(Continued on page 66)

Indoor Climate Institute

(A National Program to Explain Air Conditioning to the Public)

THE formation of an industry-wide cooperative educational program known as the "Indoor Climate Institute" to acquaint the American public with the best equipment and methods for producing indoor comfort in the post-war homes of tomorrow, have been worked out by a steering committee made up of P. B. Zimmerman, Airtemp Division, Chrysler Corp., chairman; C. E. Lewis, Delco Appliance Corp.; C. T. Burg, Iron Fireman Mfg. Co.; L. N. Hunter, National Radiator Co.; J. M. McClintock, Illinois Iron & Bolt Co.; C. D. Lyford, Minneapolis Honeywell Regulator Co.; J. R. Scott, Mueller Furnace Co.; J. W. Grover, Surface Combustion Corp.; A. T. Atwell, Quaker Mfg. Co., and W. H. Knowlton, Airtemp Division, Chrysler Corp., secretary.

When the final organization of the Indoor Climate Institute is perfected as a non-profit corporation it will be governed by a group made up of individuals representing trade associations in the fields of boilers, controls, warm air heating, oil burning units, gas equipment, stokers, steel boilers and auxiliary equipment. Additional representatives at large will serve on the Board.

The Indoor Climate Institute will be supported by subscriptions from manufacturers of heating units and auxiliary equipment in the heating and air conditioning industry.

Promotional and educational plans formulated in the headquarters' office will be carried to local organizations in the key cities of the country. It is expected that the local groups will be supported by fuel interests, utilities, dealers, contractors, jobbers, manufacturers' agents, and others interested in the welfare of the heating industry.

In answering the question, "Why a national cooperative program?" the committee stated that the public is somewhat confused by the many general claims made for all types of heating and air conditioning equipment, and it has not yet been sold on good heating and air conditioning as a sound value.

By combining its educational and promotional efforts, the industry as a unit can give the public one single strong story without the usual conflict of individual advertising. This story will be of news interest and will be well supported by the press, because it will permit the publishers to promote this great new development without being partial to any one interest.

Performance Chart Reading

Several other national educational programs cited to show what can be done are the "Better Light—Better Sight" program, established by several hundred manufacturers of portable lamps. By adopting the "I. E. S." label for lamps meeting high standards, and by gaining the support of schools, colleges, medical people, and the Eyesight Conservation Council, this group was able to obtain the support of the larger stores. The result was the increased sale of better lamps, based on the public demand for good lighting.

A similar program was carried out by the Reflector and Lamp Manufacturers in the industrial lighting field. This group eliminated expensive and unnecessary technical engineering services which had been a part of every lighting installation, and at the same time gave the industrialist a simple formula for obtaining good lighting which he could understand. The effect was to eliminate many undesirable practices in the commercial lighting industry.

Household refrigeration was not "sold" to the public until the industry finally banded together in 1926 to form the Food Preservation Council. Adopting the slogan, "Below Fifty Degrees Lies Safety," the group obtained the help of national magazines, the trade press, schools, utilities, and other institutions in teaching the American housewife the importance of food preservation. Attaining a phenomenal success, sales rose from less than 300,000 refrigerators in 1926 to over three million in 1940.

Still another important cooperative program was the "Red Seal" wiring campaign. This was designed to elevate the wiring standards throughout the country by placing a "Red Seal" on all meters where the building was equipped according to approved standards. Under this program pull-chain fixtures were eliminated and service outlets were placed between all large openings in a home, providing proper outlets for the many appliances that have been used by the American housewife in recent years.

Finally the "Modern Kitchen Bureau" was established to sell "style" to the American home and to set new standards in the kitchen. This promotional program had a real influence on improving standards in the home kitchen, and of building a market for refrigerators, ranges, kitchen cabinets, dish washers, and garbage disposal units.

Identification Seals

The Indoor Climate Institute (I. C. I.) contemplates the issuance of identification seals; the national organization to present them to manufacturers of automatic heating and air conditioning equipment meeting I. C. I. standards; the local organizations to present them to installing dealers and contractors handling work in accordance with the best established local practice. It is expected that equipment standards will be established by the various associations now doing a vast amount of research work on problems of this kind and that installation standards will be set according to the best local practice, to meet all safety codes and ordinances.

I. C. I. Consulting Service

Local Bureaus established under the I. C. I. program will provide a consulting service for home owners, dealers, contractors, architects, engineers and builders. The local bureau will check plans to see that the heating system is to be installed according to the best
(Continued on page 65)

The Register and Grille Situation

Many news items, Washington Letters, association reports and discussions have appeared in Artisan pages describing problems of furnace manufacture and installation—not nearly so much has been said about the problems of heating accessory manufacture—registers, for example. There are problems which contractors can assist in solving. Just what these problems are and how readers may help solve them is described in the following summary of the situation by C. J. Pearson, United States Register Co.

QUITE rightly, certain War Production Board orders have placed restrictions on the production of registers and grilles. Restriction started in the early part of 1942 and carried on through until November in such a way that production could be continued, but early in November a Conservation Order, M-126, placed restrictions on the production of registers and grilles, which virtually curtailed further production after January 5, 1943, excepting for certain wartime end uses for the Army, Navy, Maritime Commission, etc.

Since January 5, the register and grille manufacturers have been able to produce only for such end uses and beyond that have been supplying the needs of the heating, air conditioning, and ventilating industry out of inventory.

Since the middle of 1942 only so-called painted finishes such as Black Japan, White, Ivory, Oak Grain, etc., have been permitted; all plated and lacquered bronze finishes which involve the use of metal were prohibited and discontinued.

M-126 Amended Is No Cure

On April 8, 1943, there was announced a revision of M-126, but this revision does not completely permit the resumption of production of registers without consideration being given to Critical Labor Area Zones.

Some register producers are located in zones where they can produce and some where they cannot produce. Those in permissible zones today may have their zone changed any day to a zone where register production would not be permitted. Furthermore, types of steel prescribed by the Revision of M-126 may not be available or lend themselves to some manufacturers as suitable to register production.

While attempts have been made to produce registers and grilles of materials other than metal, in general no material has been found as a substitute for metal that would be considered completely practical.

Accept Substitute Sizes

It looks as though a clarification of the restraining order against the resumption of the manufacture of registers will be arrived at, but up to the present time this has not been cleared, so during this period and possibly for some time to come it may be necessary for the trade to give thought to substitution and be willing to take substitutions on orders which the manufacturer and the jobber can supply out of inventory.

This applies to baseboard and floor gravity registers. It will eventually apply to air conditioning registers. It may be necessary on certain jobs to even put in more than one design of register for the duration. It has hardly gotten to that point at present, but it is necessary to change certain designs to other designs taking the same size of stackhead with the same register opening, etc., that will accomplish the same purpose.

In other words, the installer of heating and the purchaser of heating equipment cannot be too particular, for like any other commodity he has to buy, if he cannot get exactly what he wants, he should, with a spirit of patriotism back of it, take the nearest thing to what he wants that is available.

Very definitely will this apply to one particular item now prohibited—the floor cold air faces of metal.

Cold Air Face Inventory Is High

We believe that most manufacturers in this industry have a large inventory of different sizes of cold air faces, possibly in Black Japan, possibly in Oak Grain finish, or possibly in some other finish, which the purchaser should be willing to accept in substitution. For example, a face two inches larger either dimension should be acceptable to the installer and to the home owner, or the project promoter and engineers, if they knew that exact sizes are not available.

Contractors can aid in this situation if, where the exact size of a metal cold air face cannot be obtained, they advise the jobber or the manufacturer to ship the nearest they can furnish within say five or ten per cent of the required free area, regardless of the dimensions required. This may create some inconvenience, but at the same time man-hour time would be saved waiting for merchandise to arrive, and housing work can be completed.

With this substitution being practiced, for example, on cold air faces, a vast amount of steel will be saved that is already represented in tons and tons of cold air faces in manufactured stocks that have accumulated over a period of more prosperous and busy years. All that is required is for the buyer to arrange with his builder or with his installer to change the size of floor openings for the reception of an available cold air face. It is better to change the size of the floor opening and be able to fit it with a face that is available than not to have any cold air return face

(Continued on page 69)

NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION



Says



IS THERE GLAMOUR IN RESEARCH?

Research is work, just plain, ordinary plodding.

Of course, this work has to be done by men of rare ability and unusual training, but nevertheless it is work.

Research means countless readings of instruments, staying up or getting up frequently nights, 24-hour per day application to duty.

Research means hours upon hours per day application to duty, countless hours required for tabulation and interpretation of results.

The first step toward research is the program—What do you want to know? Then comes the equipment and calibration of equipment, and after that you have the actual research program, where days and frequently months are required for the establishment of one simple principle.

It is hard to find glamour in that kind of a program.

But in the results of research there is glamour and plenty of it.

Consider for a moment just a few of the results of the research program which is being carried on by the National Warm Air Heating & Air Conditioning Association—the result of a quarter of a century of hard work.

Let's think of the results of this program from the standpoint of its effect on human values. In such thinking we might be able to tabulate a few of the results of our research program, as follows:

1. Added comfort to hundreds of thousands of homes. Do you remember the old days when the parlor was the only heated room in the houses? Compare this situation to the

total comfort of the modern home.

2. Health protection for human beings in the millions; lives saved through the provisions of conditions which are healthful.

3. Happiness resulting from comfortable home conditions and from a reduction of worry which resulted from unnecessary illness.

Properly dramatized there is glamour enough in the one happier family, in the one life saved, to provide adequate material for an interesting and readable novel; multiply that by millions and there is glamour enough for all.

It is customary for Americans to think of all values in the terms of dollar results. Your National Warm Air Heating & Air Conditioning Association won't take a back seat from that standpoint either when it comes to money returns.

This research program has cost somewhat in the neighborhood of \$300,000.00 so far, and that is a pittance compared to the results that have been obtained through the proper application of the Standard Code to warm air furnace installations, through proper application of control through insulation, weatherstripping, application of storm doors and windows. Our research program has proven that fuel costs can be cut in many cases more than 50%.

Assuming the fuel bill in the average home was \$150.00 and that it has been reduced 50%, representing a saving of \$75.00, and applying this to the 5,000,000 or more homes that have been heated by warm air since the in-

ception of our warm air research program, it is not difficult to convince oneself that the expenditure has brought returns to the American public which exceed the profits from the most fantastic schemes for making money that man has known.

And as we have served the people of the nation, our industry has prospered as it should.

While that makes it possible for us to continue to pay the bill for the benefit of the consuming public, it surely is the least of the benefits of 25 years of continuous cooperative research, unparalleled in the history of the industry.

Yes, there is glamour in the research program of the National Warm Air Heating & Air Conditioning Association, and there will continue to be even greater justification for the continuation of this splendid project for the benefit of humanity.

It should be easy for the present members of the industry to visualize future benefits from past results. It is to those men of the industry whose foresight at the beginning of this search activity was such as to visualize the results which have been obtained, that the thanks of the nation should be given.

Glamour?—Yes, plenty of it, and more to come.

Surely, every manufacturer in the industry wants to be a part of this greatest of all opportunities to be of service to his fellowmen and to improve his own worth and position in the world at the same time.

F. G. Sedgwick,
Chairman, Research Advisory
Committee.

NEW NATIONAL SHEET METAL ASSOCIATION ORGANIZED!

THE NATIONAL ASSOCIATION OF SHEET METAL & ALLIED CONTRACTORS OF THE UNITED STATES

Mr. Sheet Metal Contractor:

A new national association has been formed to represent the sheet metal contracting and other allied industries.

The tentative objects of this association shall be—

- 1—To get proper recognition for this industry in Washington
- 2—To interpret government regulations affecting this industry
- 3—To maintain proper standards of industry practice
- 4—To prevent post-war encroachment by others

A complete report of the organization meeting held in Chicago on May 29 is published elsewhere in this issue.

Every operating contractor is eligible for membership. Every contractor needs this association. This association needs every contractor. Dues of \$5.00 per year puts you behind this necessary activity in your behalf.

This program will be pushed. Next meeting in Detroit in about sixty days. Watch future issues for details.

Meanwhile, send your questions, suggestions and checks to either of the temporary officers below.

Temporary Chairman
W. J. Perkinson,
412 N. Wolcott,
Chicago, Illinois

Temporary Secretary
Clarence J. Meyer,
567 Genesee Street,
Buffalo, N. Y.

AN OPEN LETTER TO THE TRADE READ—ACT—SURVIVE!

(Send Checks Immediately)

On Our Industry's Front

PD-1A's to \$500 Handled Locally

WPB HAS raised the dollar limit of PD-1A applications processed in the field from \$100 to \$500, effective May 8.

Beginning May 8, all PD-1A applications involving not more than \$500 worth of material on which priority assistance is requested have been processed in either the District or Regional Offices according to the direction of the respective Regional Directors, except where specifically otherwise directed by the Director of the Distribution Bureau.

In all other cases, PD-1A applications have been forwarded by each field office to Washington, D. C., for routing in accordance with the regular procedure for processing such forms in Washington.

The new order means that now more than 80 per cent of all PD-1A applications will be handled entirely by the field offices.

Materials Still "Short"

A CONTINUING demand for materials out-running the available supply was reflected in the third quarter allotments of Controlled Materials just completed by the Requirements Committee.

The allotments of controlled materials have been made to the fourteen claimant agencies representing military and civilian requirements, lend-lease, and other exports.

Total requests from claimant agencies amounted to more than 20,000,000 tons of carbon steel, while the estimated supply in the third quarter is slightly under 15,000,000 tons. The allotments of carbon steel made by the Requirements Committee are slightly above the estimated supply to assure full use of all available materials and to create a pressure for reduction of inventories to an absolute minimum.

The requests of the Army, Navy, Aircraft Resources Control Office and the Maritime Commission for carbon steel, taken together, were reduced by about 18 per cent in the allotments made by the Requirements Committee. All other requests, including those for export, were reduced about 27 per cent.

The estimated third quarter supply of materials allotted by the Requirements Committee included nearly 15,000,000 tons of carbon steel, about 2,500,000 tons of alloy steel over 1,000,000 tons of copper products, and nearly 660,000,000 pounds of aluminum.

Register Essential "Fathers"

EMLOYERS engaged in war production or in activities essential to the war effort should file with Selective Service local boards written evidence of their employment of registrants who maintain bona fide homes with children less than 18 years of age, born on or before September 14, 1942. Selective Service Form No. 42B, which is available at local board offices, should be used for this purpose.

The local board thus will be advised of the registrant's employment in an essential activity, and the

employer will receive notice of reopening of the registrant's classification any time it is undertaken by the local board. The employer, after receiving such notification, will have opportunity to submit additional evidence of the essentiality of necessary men in his employ.

The only fathers now being inducted under the Selective Service Act are those engaged in activities or occupations on the War Manpower Commission's non-deferrable list; farm workers who, without permission of their local board, leave essential agricultural pursuits for which they have been deferred, and fathers whose children were born on or after September 15, 1942. Submission of Form 42B is urged, however, for men who have a child, or children, with whom they maintain a bona fide family relationship in their homes, to assure the employer that if the time comes when such registrants are needed in the armed forces he would receive notice of his employee's Selective Service status.

Office of Civilian Requirements

EFFECTIVE May 2, an administrative order sets up the Office of Civilian Requirements within the War Production Board and clothes it with the power necessary to provide civilians with essential goods and services. (See Arnold Kruckman's Washington Letter in the May issue.)

The new agency, superseding the Office of Civilian Supply, is headed by Arthur D. Whiteside, Vice Chairman for Civilian Requirements.

In order to correlate the policies of the Government agencies concerned with the supply of civilian goods and services, the order establishes a subcommittee of the War Production Board, designated as the Civilian Requirements Policy Committee, composed of the following: Secretary of Agriculture, the Chairman of the War Manpower Commission, the Price Administrator, the Petroleum Administrator for War, and the Director of the Office of Defense Transportation. Mr. Nelson will be chairman and Mr. Whiteside vice chairman of the committee. In addition, the War Food Administrator and the Administrator of the National Housing Agency will be invited to sit with the committee.

"It shall be the objective of the War Production Board," the order states, "to provide consumer goods and services adequate to maintain essential civilian life and the highest productive efficiency, to the end that the maximum productive power of the civilian populations may be attained in the support of the war effort."

Consumer goods and services are defined as meaning "all products and services personally consumed or used by individual civilians in the United States (including maintenance, repairs, and operating supplies for household or consumer use), except such products and services under the jurisdiction of the following claimant agencies: War Food Administration in the Department of Agriculture, National Housing Agency, and the Office of Defense Transportation."

To attain the objective of providing civilians with
(Continued on page 70)

AMERICAN ARTISAN

RESIDENTIAL AIR CONDITIONING

S E C T I O N



DEVOTED TO HOME AND SMALL^u COMMERCIAL AIR CONDITIONING

YES, MA'AM, WE HAVE
DUST-STOPS* TO FIT
YOUR FURNACE



SAY, THIS LOOKS LIKE
ANOTHER RECORD MONTH
FOR DUST-STOP SALES



These New Dealer Sales Helps are all set to build new business

DESPITE present-day labor shortages, Dust-Stops offer a sales plan that can mean real profits for your business. Here's the story:

Right now is an excellent time for your prospects to change their forced-warm-air furnace filters. These air filters are probably loaded with dirt . . . need replacing so that householders can be sure their furnaces will give maximum efficiency. The new Dust-Stop Dealer Helps lay special emphasis on these points.

And, the new catalog of Dust-Stop filter sizes enables you to take orders by phone and—if you wish—to fill those orders by mail.



The new Dealer Helps include FREE mailing pieces; free newspaper advertising mats; free follow-up post cards. You get free, colorful floor and window displays; free one-minute radio announcements . . . even furnace reminder labels—in fact everything to let prospects know your place is headquarters for Dust-Stop Air Filters.

You get extra repair business, too

These new Dust-Stop Dealer Helps go out and flag business and head it your way. They put you in line for all kinds of furnace repair and cleaning jobs, in addition to filter-replacement work.

Right now, this material is

all set to aid your business. If by any chance you haven't obtained your free set, be sure to get in touch with your Dust-Stop distributor today. Ask him to show you the new 1943 sales plan—"Pulling Profits out of the Air"—the plan that right now is making many extra dollars for many alert dealers.

*Owens-Corning Fiberglas Corporation,
Toledo, Ohio. In Canada, Fiberglas Can-
ada, Ltd., Oshawa, Ontario.*

FIBERGLAS*
DUSTOP*
*T. M. Reg. U. S. Pat. Off.
AIR FILTERS

War Housing Construction Standards

IN THE MARCH, 1943, issue, page 49, we published a digest of the heating sections of the War Housing Construction Standards which now control the equipment and method of application in all new housing.

We pointed out that these Standards differ from the previous Standards in that the earlier rules specified certain types of heating equipment for certain heat losses, while the present Standards permit either a chimney furnace, chimney furnace range, gravity furnace or forced air furnace in structures having 60,000 B.t.u. loss or under and 60,000 B.t.u. and over, but specify types of heating equipment according to type of house and not according to heat loss.

This may still be somewhat confusing, so we publish here a tabulation obtained by the National Warm Air Heating and Air Conditioning Association from War Production Board and the National Housing Agency showing what goes where.

States NWAH&AC Ass'n.: "For the purpose of assuring the minimum use of critical materials in heat-

ing layouts, the installations permitted by the War Housing Critical List are further limited to the type of equipment and capacity, according to the fuel permitted and type of structure shown in the table below."

In order properly to interpret these rulings, the contractor should understand what the government means by dwelling units, stories, floor area, so the following interpretations on these definitions have also been obtained.

(i) Family Dwelling Unit

"Family Dwelling Unit" means an accommodation irrespective of the number of rooms which contains living facilities for one family, including provisions for living, sleeping, eating, cooking, and sanitation. This does not require separate bathroom facilities for each unit.

The area for other than sleeping purposes, or for a "no bedroom" family dwelling unit, shall have a minimum of 200 square feet of floor area.

(Continued on page 68)

Heating Unit or System	Maximum Net Hourly Output Capacity, B.T.U.'s	Structure Types Where Use Is Permitted
A. In any area where coal or other solid fuels, including sawdust, are used		
1. Space Heater	45,000 or less	All one-story types and two-story flats and apartments.
2. Chimney Furnace	60,000 or less	All types.
3. Chimney Furnace Range.	60,000 or less	All types.
4. Gravity Warm Air..... (A)	60,000 or less	One story in excess of 650 sq. ft. and all two-story structures.
	(B) Over 60,000	All types where floor area of dwelling unit exceeds 900 sq. ft.
5. Forced Warm Air..... (A)	60,000 or less	Basementless units only, one-story in excess of 650 sq. ft., and all two-story structures.
	(B) Over 60,000	Basement units only, all types in excess of 900 sq. ft.
6. Steam or Hot Water....	Total weight of system not more than 36 lbs. of metal per 1,000 B.t.u.'s.	Where each heating system serves four or more dwelling units in projects where more than 75% of the dwelling units are in flats or apartments in structures more than one-story in height.
B. Where oil is permitted under Order L-56 and is used		
1. Space Heater	60,000 or less	All one-story types and two-story flats and apartments.
2. Floor Furnace	60,000 or less	All one-story types.
3. Gravity Warm Air..... (A)	60,000 or less	One-story in excess of 650 sq. ft. and all two-story structures.
	(B) Over 60,000	All types where floor area of dwelling unit exceeds 900 sq. ft.
4. Forced Warm Air..... (A)	60,000 or less	Basementless units only, one-story in excess of 650 sq. ft. and all two-story structures.
	(B) Over 60,000	Basementless units only, all types where floor area of dwelling unit exceeds 900 sq. ft.
C. Where gas is permitted under L-31 and L-174 and is used		
1. Space Heater	45,000 or less	All one-story types and two-story flats and apartments.
2. Floor Furnace	45,000 or less	All one-story types and two-story flats and apartments.
3. Two Space Heaters....	Over 45,000	All types where floor area is in excess of 700 sq. ft.
4. Two Floor Furnaces....	Over 45,000	All types where floor area is in excess of 700 sq. ft.
5. Forced Warm Air..... (A)	60,000 or less	Basementless units only, one-story in excess of 650 sq. ft., and all two-story structures.
	(B) Over 60,000	Basementless units only, all types where floor area of dwelling unit exceeds 900 sq. ft.

Note: Heating plants using less metal than those permitted for the particular house type may be used. In multi-family structures one forced or gravity warm air system is permitted for each dwelling unit.

Dirt Is Responsible For Most Oil Burner Service Calls

By J. J. Cavellier
J. J. Cavellier Co., Detroit

THE oil burner units the average heating contractor will be called upon to service today will be of the type in which the chamber, the burner, and the nozzle size are presumably correct. So let us assume, for the time being, that our job is a correctly sized, pressure type burner.

It must always be remembered that dirt in some form or another is accountable for the biggest percentage of all type of service calls; for example, fumes, insufficient heat, soot, as well as "how quickly can you get here," "no heat" calls.

With this fact firmly fixed in your mind, do not be too quick to change any adjustments whatsoever, as some service man whom you are now replacing may have spent a good many hours adjusting this particular job.

10-Step Checking Procedure

The first thing we will do when on a service call, for instance, "no heat," is to get what information you can from the customer—he may know exactly what is wrong and save you a lot of time—otherwise proceed as follows:

1. Check for "out of oil"—the gauge can be wrong.
2. See that the thermostat is set higher than room temperature.
3. Check that no switches have been turned off

accidentally or fuses borrowed from the oil burner circuit. If a fuse is blown, it may indicate any one of a number of things that we will discuss later.

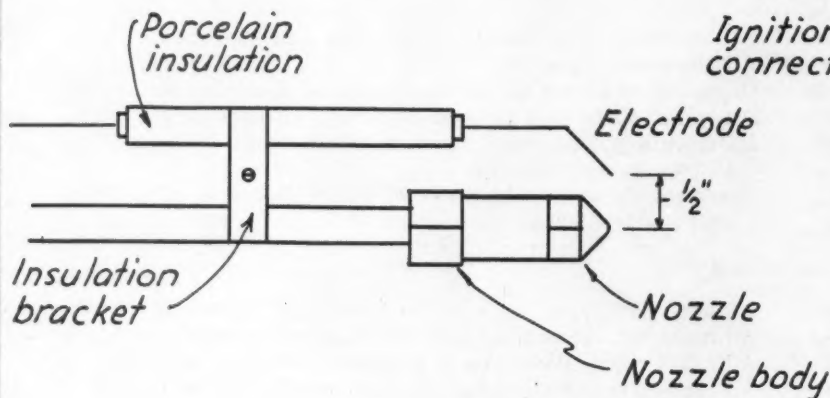
4. Open the fire door and look around to see that everything is normal inside the furnace. It is not safe to try to start the burner if the combustion chamber is saturated with oil.

5. Next it is good practice to slightly jar the relay panel before pressing the reset button. If this will start the burner, it indicates a loose or dirty connection in the control; if not, press reset button to see if burner starts.

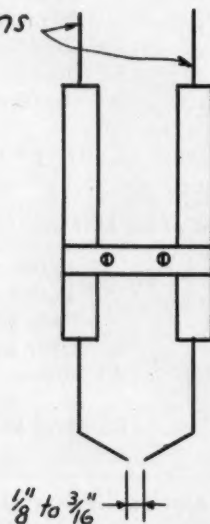
6. If burner starts but there is no fire in the combustion chamber or no evidence of oil coming through the nozzle (oil vapor has the appearance of white smoke), then turn off the main switch and remove nozzle and electrode assembly. Again turn on switch to see that oil is coming through the pump. Assuming that it is, shut off electricity again as the trouble is undoubtedly a plugged nozzle.

7. Take the nozzle apart and clean thoroughly. If the nozzle is exceptionally dirty (by this I mean that after cleaning the inside does not shine), it is much better to replace the nozzle.

8. Next check electrodes which should be thoroughly cleaned and wires inspected for any breaks or loose connections and porcelains inspected for



Ignition connections



Manufacturers carefully specify the settings for their electrodes. These specifications should be adhered to exactly. Left is a typical setting dimension.

Fig. 1 Nozzle and Electrode Assembly

cracks. Manufacturers' specifications vary on these settings and should be strictly adhered to. A great majority of manufacturers set electrodes to the following measurements. (See Fig. 1.)

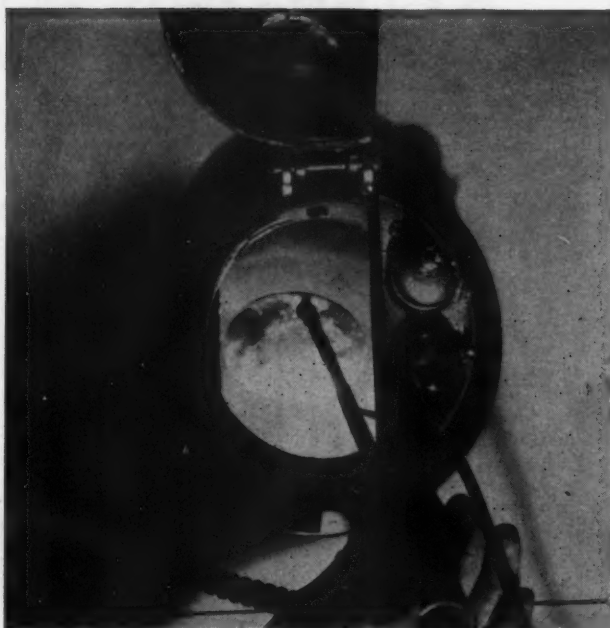
9. Reassemble burner and turn on oil and electricity. Now burner should start.

10. Examine flame for cleanliness. See that fire burns evenly in the center of the combustion chamber with slightly smoky tips. If fire shoots to one side or the other or in a dirty, narrow stream, or fire shoots sparks to back of chamber, remove and clean nozzle again. Don't be discouraged if this needs to be done several times.

Nozzles

The purpose of the nozzle is to supply oil to the chamber in sufficient quantity and of a correct spray shape to give the greatest efficiency. The degree of angle of the nozzle is naturally according to the size and shape of the chamber. A perfectly round or square chamber, for instance, requires an 80 or 90-degree nozzle. Rectangular chambers require 60, 45, or in some cases 30-degree nozzles. This is very important, for if an 80-degree nozzle is placed in a long, narrow chamber (that should really require a 45-degree) it will cause the flame to impinge on sides of the chamber, coking or building up large deposits of hard carbon where flame strikes. This is, of course, very inefficient.

The spray should never strike the electrodes, as this causes them to burn off. Spray should begin slightly ahead of electrodes so the force of air from the blast tube blows a healthy ribbon of spark into the spray, causing the oil to ignite. Clean nozzle parts and screen in carbon-tetrachloride, or if this is not available, use ordinary fuel oil. I also find it a great help to put these parts under water pressure as this flushes out all loose dirt and grime from the assembly leading to the nozzle. A special nozzle brush or a discarded tooth-brush is also helpful for cleaning these parts. As for cleaning the slots in the nozzle, cut an exposed camera film into $\frac{1}{4}$ inch strips and draw one of these through the slots. Do not use any metal such as an ice-pick or file points in cleaning nozzles, as the inside is very easily damaged.



The oil burner flame should be examined with a flame mirror. This will show color, smoke at tip and direction and cone of oil spray.

"Nozzle Drip" is caused by air in the line or dirt under the seat in the cut-off valve in pump. In the first case, run burner about thirty minutes to rid line of air; if this does not work, then start and stop burner several times; this may seat the cut-off valve. It may be necessary to remove the valve and clean. In this case, after repairs are made, the pressure on the pump should be checked. A slight discoloration or burn of the nozzle itself does not mean necessarily that it is of no further use; however, no accumulation of dirt should be evident.

Don't Tear Everything Apart

The method outlined is one way of detecting trouble by the process of elimination. Don't be too anxious to tear everything apart. Keep in mind that shortly before you arrived the burner *was running*. Everything can't be wrong. Don't just recycle it and, if it happens to start, assume that you have corrected the trouble. Find something that would definitely cause the burner to stop. Safety switches are made to turn the burner off because some abnormal condition exists. Find the trouble and save yourself the expense, rubber and gasoline of a repeat call. Again, I emphatically repeat that dirt is your greatest enemy and majority of service calls require nothing more than a thorough cleaning.

It is very important that the service man be equipped with a good set of tools, such as good screw drivers, wrenches, Allen wrenches, etc., and a pressure gauge, a combustion set and a stack thermometer. With a little perseverance you will find these still available and you will be more than rewarded if you should have to return

(Continued on page 67)

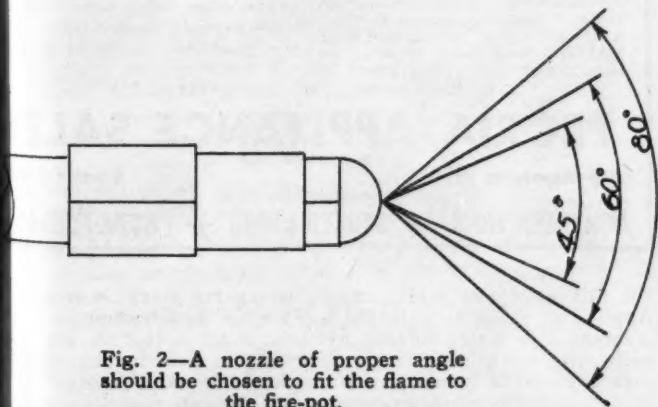


Fig. 2—A nozzle of proper angle should be chosen to fit the flame to the fire-pot.

ATTENTION HOMEOWNERS

Fuel is scarce—and vital to Victory. Conserve it—take advantage of our experience and equipment for insulating your home with famous

NORTHERN WOOL

THE IDEAL HOME INSULATION

Here is insulation that makes your home heat-tight—that slashes a big hunk off your fuel bill—that gives you a lot of comfort in hot weather. Uncle Sam urges you to cut down on fuel . . . and insulating with Northern Wool is the easy, economical way to do it.

**Whether You Burn Gas,
Coal or Oil, You Are
Urged to Conserve**

**DON'T PUT IT OFF!
INSULATE
NOW**

Remember—insulation is only as good as the one who applies it. We do the job right—Northern Wool is blown into side-walls as well as the attic. Can be used in old or new construction.

**CALL, WRITE OR
MAIL THIS COUPON**

**Peoria Appliance Sales
309 Harrison St.**

Please mail, without obligation, information on Northern Wool Insulation.

Name

Street City

☐ Home ☐ Duplex ☐ Business Building

PEORIA APPLIANCE SALES

Headquarters for Home Insulation

309 Harrison St.

H. F. Sisney, Mgr.

Phone 4-5566

THE possibilities of insulation as a product or a service readily salable to home owners has, for some time, attracted the consideration of warm air heating contractors.

Consideration has particularly been widespread since material shortages and other restrictions have caused such shrinking in sales volume of customary services.

Some contractors have incorporated the sale of insulation as an adjunct to the sale of heating equipment and heating service depending, for sales, on solicitation made when servicing the fur-

Check Your SAVINGS

Northern Wool saves up to 50% on your fuel bill—by actual tests!

Check Your COMFORT

Northern Wool lowers summer temperatures in your home by 10° to 15° degrees.



Peoria Appliance Sales Holds Sales Volume By Selling Insulation

nace. Other more ambitious contractors have made insulation sales independent of heating service and have set up departments or made insulation sales solicitation without regard to furnace work and to all possible insulation prospects regardless of whether this prospect ever was a heating customer.

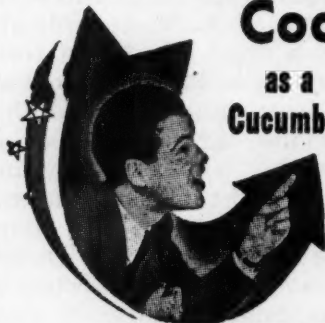
Both methods have been successful—decision probably should be made on the basis of how much time and effort the contractor is willing or able to give to insulation. The sales volume return seems, so far as we can judge, to be in direct ratio to the amount of time and effort the contractor can give.

That insulation is a possibility today in building sales volume has been proved by numerous examples, but the following report can be another indication of what can be done.

In Peoria, Ill., the Peoria Appliance Sales Com-

**MY HOUSE IS
Cool**

as a
Cucumber



**Since I Insulated
with**

**NORTHERN
WOOL**

**...AND THE U. S. BUREAU OF STANDARDS
TELLS ME I'LL SAVE UP TO 50% ON FUEL!**

No more bake-oven rooms for me! Northern Wool... enough for my whole house... cost surprisingly little... **AND WHAT A DIFFERENCE IT MAKES!** Saves fuel in winter... is 10 to 15 degrees cooler in summer!

Northern Wool, made right here in Peoria, is the modern, low-cost insulation that does the work! Triple-thick, fireproof, vapor proof and waterproof. Let us give you estimate on your home.

NO CASH DOWN... UP TO ONE YEAR TO PAY

PEORIA APPLIANCE SALES

309 Harrison St.

H. F. SISNEY, Mgr.

Phone 4-5566

NORTHERN WOOL ★ STOKER-ATORS ★ "HOME FURNACE"

On this page and facing are three examples of Peoria Appliance Sales Company's newspaper advertisements. Average size is two column, five inch to three column, six inch, with occasional larger space. Note prominence of insulation trade name—repetition fixes the name in prospects' minds and makes selling easier.

pany was originally set up to sell stokers, blowers, air conditioning units, furnaces, plus radios, washing machines, refrigerators, etc. Most of this apparatus was sold on the basis of time payments up to three years, and several hundred customers, many still paying on these time contracts, provided the organization with a "live" list of prospects when, two years ago, the company decided to concentrate on insulation as a material unrestricted and a market hardly scratched in Peoria.

In addition to customers still paying on time contracts, all customers who ever had bought any of the firm's merchandise in the last six years were added to the list of prospects to be solicited for insulation, provided these customers were home owners. The weeding out of non-home owners, of course, reduced the original list, but furnished a list of owners whose payment record was known to the firm.

Advertising and Letters Used


To sell insulation, the manager, H. F. Sisney, wisely chose two methods which do not require a large sales force or canvassers—newspaper advertising and letters.

The letters constitute the minor effort and consist of usually three letters sent each year to the list. Two examples of the letters used are shown. This letter combines a testimonial and a brief explanation of insulation's money saving. The letter invites the prospect to ask for free additional ex-

H. F. SISNEY, Mgr.
PHONE 4-5566

Peoria Appliance Sales

309 HARRISON STREET
PEORIA, ILL.



STOKERATOR
STOKERS
DOMESTIC AND
COMMERCIAL
SERVICE
24 HOURS PER DAY

FORCED AIR BLOWERS
ALL SIZES

GAS AND ELECTRIC RANGES

WASHING MACHINES
HANDLES
IRONERS

CROSBLEY SHELVADE REFRIGERATORS

AIR CONDITIONERS
ROOM COOLERS
ELECTRIC FANS
RADIOS

"My upstairs used to be difficult to heat in the winter and was uncomfortably hot in the summer. Since insulating my attic with Northern Wool I have eliminated both faults and in addition we are using less coal than any year previous regardless of weather conditions. It is the best investment I have ever made and I am happy to recommend Northern Wool Insulation."

Signed: DR. R. C. CLEMENTS
4200 Knoxville Road
Peoria, Illinois

Above is one of our hundreds of voluntary testimonials that we have in our files. Entirely unsolicited our telephone rings daily bringing us stories from customers who claim they have received so much more in benefits from Northern Wool than they allowed themselves to hope for at the time of purchase.

Further proof is the fact that Northern Wool is one of the very few remaining civilian commodities left on our American market that our government wants our people to buy. It can be purchased on the basis of nothing down with three years to pay.

Before discarding this letter won't you please call us (phone 4-5566) and let us tell you how you may have this savings plus comfort at no actual cost.

Sincerely yours,
PEORIA APPLIANCE SALES
H. F. Sisney, manager

HFS:br

Above and on the following page are two examples of sales letters being used this year. A testimonial is used to catch attention—the sales paragraphs are aimed to invite a salesman's call to close the sale.

planation of what insulation provides in greater comfort and money savings and this personal explanation is relied upon to close the sale.

The newspaper advertising constitutes the major effort and several samples of current advertisements are shown. These advertisements are written by Mr. Sisney. While general composition is uniform, the advertisements are changed as frequently as possible to take any advantage of timely "news" assistance.

Types of Advertisements

These advertisements appear in two Peoria papers. Space is purchased each week throughout the year. Thus the value of consistent telling and re-telling of the story of insulation is capitalized. To profit by seasonal preferences in buying insulation, the size of the advertisements is increased in insulation "seasons" and the firm has, with the aid of Northern Steel and Stoker Corp., "splashed" a full page on one or two occasions and has several times used one-half page space. But, in general, the size of the advertisements run from two-column five inch to three-column six inch or the square inch equivalent.

The sample advertisements shown indicate that the name of the insulation is prominently dis-

NORTHERN WOOL



the Ideal Home INSULATION

for Greater Comfort
Summer and Winter

Be sure your insulation is
**NORTHERN WOOL. The
insulation that is FIRE-
PROOF, WATER PROOF,
VERMIN PROOF!**

Buy Extra War Bonds
with the Money you
SAVE on your Fuel
Bill.

U. S. Government Urges Home
Owners to Insulate Thereby Con-
serving Fuel!

Authorized Terms **NO MONEY DOWN** Three Years To Pay

Dial 4-5566—FREE Information—No Obligation

Also—STOKER-ATORS and HOME FURNACES

PEORIA APPLIANCE SALES
WHOLESALE AND RETAIL

309 Harrison H. F. SISNEY, Mgr. Phone 4-5566



H. F. SISNEY, Mgr.
PHONE 45566

STOKERATOR
MADE RIGHT
INSTALLED RIGHT

Peoria Appliance Sales

309 HARRISON STREET
PEORIA, ILL.

STOKERATOR
STOKERS
DOMESTIC AND
COMMERCIAL
SERVICE
24 HOURS PER DAY

FORCED AIR BLOWERS
ALL SIZES

GAS AND
ELECTRIC
RANGES

WASHING MACHINES
HANDLES
IRONS

CROSBY
SHELVAIDOR
REFRIGERATORS

AIR CONDITIONERS
MODERN SIZES
ELECTRIC FANS
RADIO'S

"I would advise no one to hesitate to invest in Northern Wool Insulation. It is a never ending source of gratification to sit in my home and note the long intervals between stoker operations. I am saving both coal and electricity, my ceilings are staying clean, and I am looking forward to the hot weather comfort that I know is in store for me next summer."

Signed: MR. LOUIE BOWKER
Marlene Avenue
Peoria, Illinois

The above recommendation started out to be long enough to fill this page but we insisted that our friend contain his enthusiasm and condense his thoughts on Northern Wool to a few well chosen pointed sentences. We are busy, it is true, with our insulation work but we often wonder, after listening to the extravagant claims of our customers, how it happens that we are even able to take care of the demand. The answer is, we have finally decided, that the average home owner is so busy with his daily routine that he just has never learned the advantages of Northern Wool Insulation correctly applied in his own home.

Won't you please call us (4-5566) and without subjecting you to a high pressure sales talk let us explain to you what Northern Wool made out of Cork and Wood Fibers will do for you and your family? You are paying for insulation every winter in fuel losses even though you do not have it and you are denying yourself the summer comfort besides.

Sincerely yours,
PEORIA APPLIANCE SALES

HFS:br

H. F. Sisney, Manager

Three letters will probably be used this year. Letters are the minor sales method. Letters go to a large, active prospect list of past customers, time payment customers, home owners.

played. The reason, says Mr. Sisney, is that continual emphasis on a trade name tends to fix this name in the prospects' minds and makes sales easier and quicker than would be the case where the insulation was unknown to the buyer.

The cost of this newspaper campaign has been substantial. In 1942, for instance, \$2,700 was spent in newspaper advertising. That such a cost pays for itself is indicated by the sale of about 350 insulation "jobs" in 1942.

Typical Sales Prices

Seventy-five per cent of these jobs were attic only, with a typical attic job selling for from \$100 to \$140. Twenty-five per cent of the jobs sold

We Have Settled Down

(Continued from page 17)

what you can do, what you need to keep in business.

The whole situation can be summarized, we



INSULATE NOW!

with

NORTHERN WOOL

Enjoy real cool comfort this summer and up to 50% of your fuel bill next winter.

WE WILL INSULATE YOUR HOME WITH NORTHERN WOOL

No Priorities Required—No Cash Down Payment
● 3 YEARS TO PAY ●
ESTIMATES PROMPTLY MADE WITHOUT OBLIGATION

PEORIA APPLIANCE SALES

WHOLESALE
AND
RETAIL

H. F. SISNEY, Mgr.
Headquarters for Home Insulation
309 HARRISON ST.

Phone **4-5566**

Cooler in summer—less fuel consumption in winter are the appeals now getting public acceptance. Both advertisements and letters stress these values.

were attic plus walls and these installations ranged from \$370 to \$450 with an occasional \$500 to \$600 contract.

Also interesting is the fact that while the advertising seemingly pays a handsome return on its cost, in reality the advertising cannot be credited with more than 10 to 25 per cent of the sales for investigation disclosed that from 75 to 90 per cent of all sales made were "nailed down" and often begun through the recommendation of the firm by one of its satisfied customers.

But this seemingly confusing situation can be explained, Mr. Sisney believes, by acknowledging that advertising and customer recommendations compliment one another. The advertising alone, without help from customers, would show a smaller return. But recommendations by customers would also fall down if the prospect had not heard about insulation—particularly Northern Wool insulation sold by Peoria Appliance Sales Company—and if this story of insulation had not been blazoned weekly in the newspapers.

Peoria Appliance Sales is selling furnaces—as many as the firm can get. Also storm sash—occasionally. Also stokers when they can be secured. When appliances are once more available, the firm will sell them. But for the present insulation is carrying the load of keeping this firm in business.

think, by saying that our country has actually settled down to the business of winning the war. We are slowly finding what we can get along without and what we must have. Now, more than ever before, it is directly up to every man in business to analyse his situation, then decide on a course to follow and, finally, leave no stone unturned to make that program function.

AMERICAN ARTISAN

SHEET METAL

S E C T I O N



DEVOTED TO SHEET METAL CONTRACTING AND FABRICATING



**YOUR FUTURE SUCCESS
HAS A FOUNDATION OF**

STEEL!

FORTUNATE is the craftsman who has mastered the art of shaping and fabricating sheet steel. Today, his skill is a precious asset to the productive effort of America's war industry. Tomorrow, this same skill, increased by war experience, will be his own "personal prosperity insurance."

Your future success as an artisan will be determined to a large extent by the limitations or advantages of the materials with which you work. That's why you're lucky, if steel is the material you know best. Its unmatched versatility will be the key to more business and better business for your shop in the years to come, as the

strength, lightness, good looks, heat resistance and workability of steel make it the natural choice for more and more jobs.

So treasure your knowledge of steel. Protect it by keeping yourself informed on the characteristics of various types of steel. Keep up-to-date on new shop methods, welding techniques, joint designs. Share what you learn with your fellow craftsmen. And let us help you develop your steel-working skill to a point where you can take full advantage of the superior qualities of U-S-S Steel Sheets. Write to us about your problems, or send for your copy of the U-S-S Sheet Metal Worker's Guide.

U·S·S STEEL SHEETS

CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago

COLUMBIA STEEL COMPANY, San Francisco

TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham

United States Steel Supply Company, Chicago, Warehouse Distributors

United States Steel Export Company, New York

**You'll find your most useful materials
among these U-S-S Steels:**

U-S-S GALVANIZED STEEL for sheet metal structures requiring the added protection of a zinc coating.

U-S-S COPPER STEEL to give twice the atmospheric corrosion resistance of regular steel at little additional cost.

U-S-S PAINTBOND — A galvanized, Bonderized sheet that permits immediate painting and holds paint tighter. U-S-S Dul-Kote, a product with similar qualities, available in the South and West.

U-S-S HOT-ROLLED AND COLD-ROLLED STEEL to provide the basic advantages of steel, plus maximum economy, in accordance with the needs of each individual job.

U-S-S STAINLESS AND HEAT-RESISTING STEELS to assure high resistance to corrosion and heat, and to reduce weight.

U-S-S VITRENAMEL — Sheets designed especially for porcelain enameling.

U-S-S LOW ALLOY, HIGH TENSILE STEELS to resist corrosion and increase strength without adding weight.



**ONLY STEEL
CAN DO SO MANY
JOBS SO WELL**

UNITED STATES STEEL

Troop Transport Ventilating System

Ship construction seems likely to be one war program which never will catch up until the fighting is over. Also, we seem to be finding ways of dividing ships into component parts so that more and more trades can build bits and pieces. Ventilating systems are one component our industry can furnish.

IN THE Baltimore area, a number of sheet metal shops are obtaining contracts to fabricate and install ventilating systems in boats being converted from passenger vessels to troop carriers under a program of sub-contracting sponsored by Bethlehem Steel Company, Ship Building Division. To spread this work as widely as possible and also to speed up construction, the ventilating system for the boat is divided into a number of sub-contracts so that one shop may get the system for one deck or for parts of several systems on several decks. This is made easier because boat ventilating systems usually consist of a great

transferred to shop drawings and fabrication was scheduled so that sections were ready for erection as work in each particular part of the deck reached the proper stage of remodeling.

The duct work is mostly galvanized iron, 18 and 20 gauge; drive cleats are 20 gauge; hangers are 1½ by ¼-inch band iron. All duct work is rectangular with Pittsburgh locks placed to economize sheet cutting. It should be noted that whereas much Navy work employs short sections of pipe fastened together with angle iron bolted together as flanges with gaskets, this reconstruction is quite similar to usual commercial duct con-



Elbows, in the Zeller contract, were quite similar in design, material and construction to building sheet metal practice. Here are a few small ones being put together.

number of sub-systems, each system serving a particular space or service or type of supply or exhaust.

The drawings and details illustrate the working out of this program and show part of the contract taken by the Wm. F. Zeller Co. of Baltimore for work primarily on one deck of a large boat. This contract included work on several separate systems on the deck and illustrates several of the interesting problems typical of boat work.

General Construction

From blueprints, checked by job measurements, the systems and the duct pieces thereof were



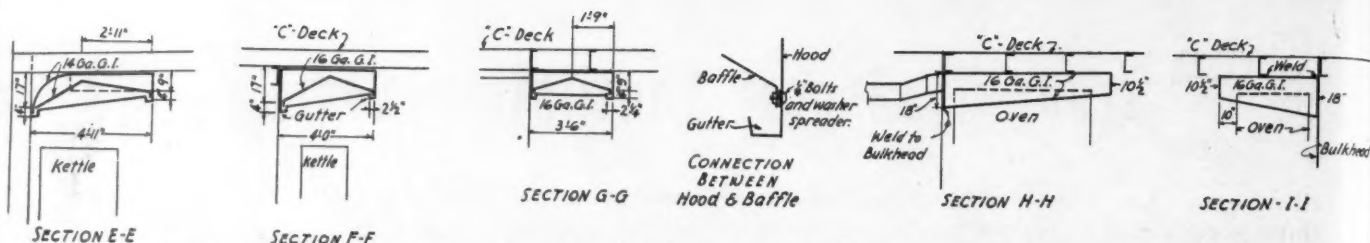
Having many similar pieces, Zeller cut most elbow cheeks with the electric shears, working around a template. 18 gauge stock.

struction—perhaps because these ships may be returned to peace-time service after the war, and the ventilating systems, therefore, can be of a more temporary nature.

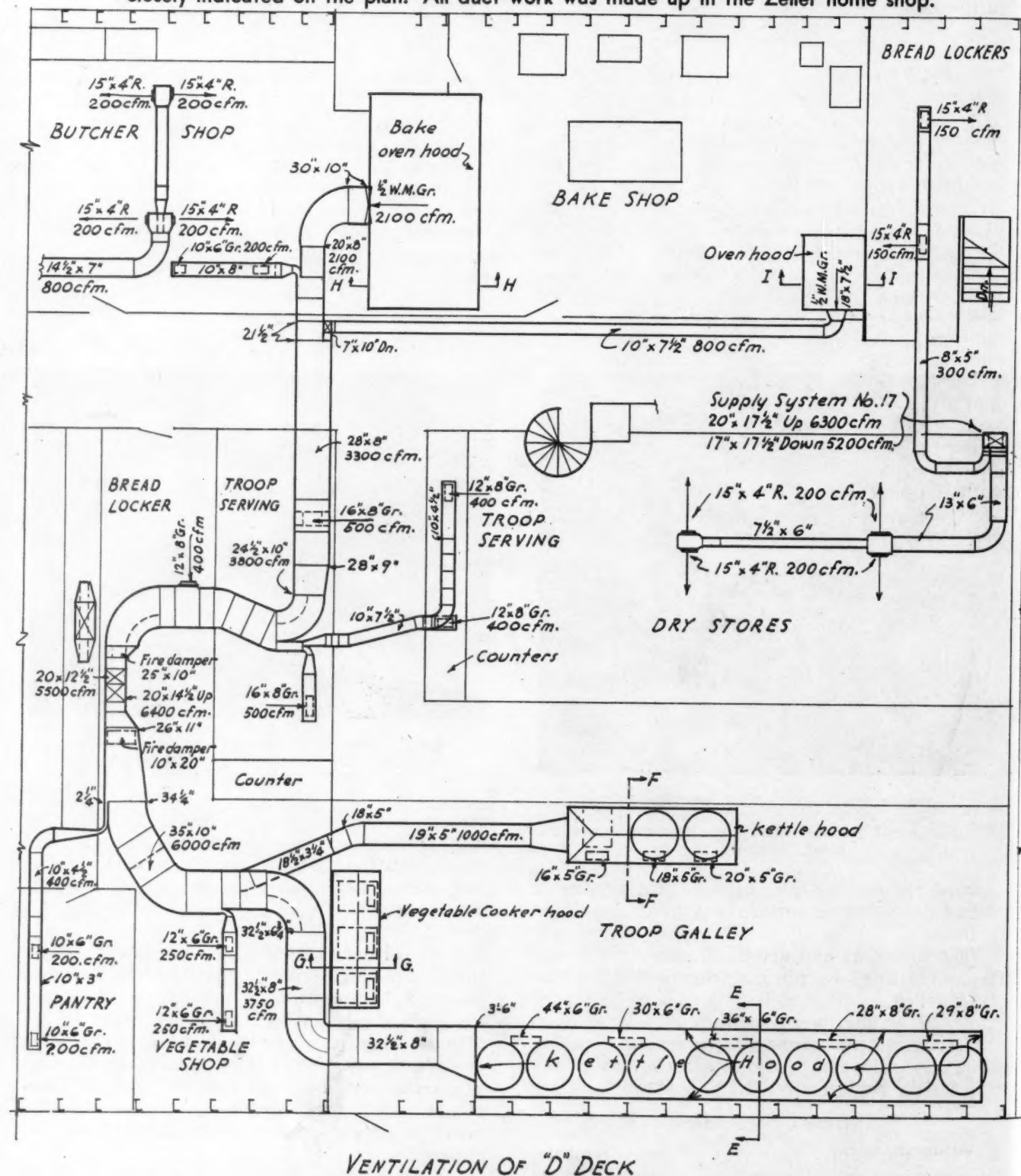
Ship Problems

Even the few parts of the Zeller contract shown in the drawings indicate that there is one outstanding feature to ship ventilating systems—the high percentage of pipe work taken up by fittings. There are practically no extended runs of straight pipe—every few feet there are changes in direction or changes in size; or there are take-offs or outlets; or another space or piece of equipment or special service to be satisfied by the system.

On the drawings there appears to be plenty of



Exhaust system No. 20 is shown in plan below. This unit removes steam, vapor, odors from food service areas. Kettles, ovens, steam tables, have hoods constructed as shown in details above and located on the plan by section arrows. Duct divisions are closely indicated on the plan. All duct work was made up in the Zeller home shop.



VENTILATION OF "D" DECK

Right—Pieces for section lengths and fittings were blanked or squared to size on a foot shear.

elbow room for erection, but usually space on ships is restricted so the fabricator must be sure he can get his sections into the ship and hung in place, and he must do his work along with dozens of other trades, each also taking out or putting in mechanical equipment or furnishings, usually in the same space.

Exhaust System No. 20

A part of the Zeller contract included Exhaust System No. 20, which withdraws air from the "Troop Galley" (kitchen), from the cafeteria counter, from the bake shop, the vegetable shop, pantry, butcher shop, bread locker, etc. This system is shown on an accompanying layout—this section of the "D" deck system runs the full width of the boat for a distance of approximately 75 feet in the length of the boat.

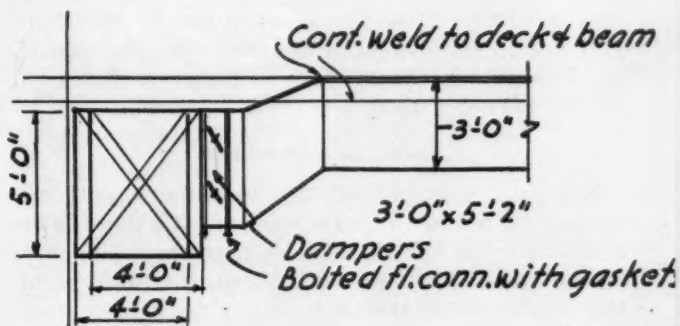
This exhaust system is primarily intended to withdraw steam, heat and smoke from spaces where food is cooked or served. As such, the terminals of the system are hoods, as shown in the plan and details.

The fan is not located at the system, but is 49 feet above "D" deck on the "Sun" deck and connects with the system through a riser, as shown.

The various hoods were constructed of 16-gauge galvanized iron in shapes as shown in the details with the baffles bolted to the hood with $\frac{1}{4}$ -inch stove bolts on 18-inch centers. The hoods are supported by bolting the hood to the deck beams.



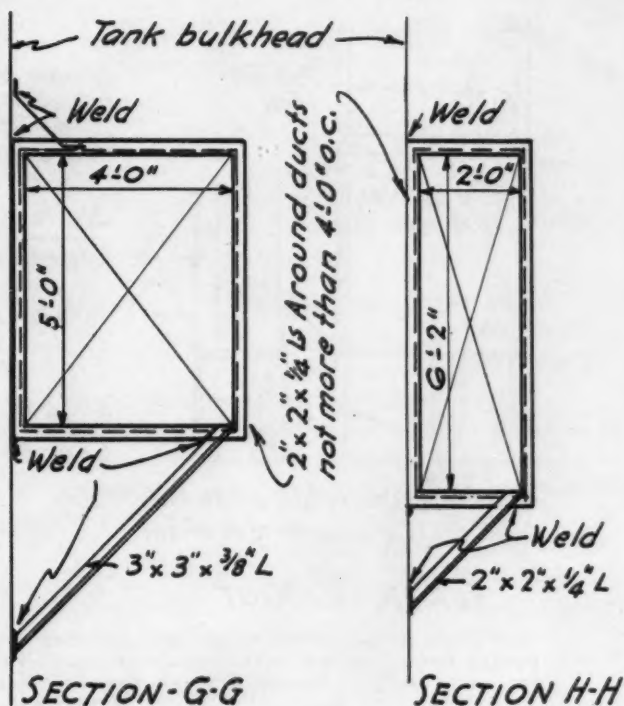
Fittings and straight pipe were put together with Pittsburgh locks. Note long benches for stacking blanks and seamed pieces.



SECTION E-E

Above—Detail of boiler room duct showing dampers and welds which hold ducts to deck plates or beams.

Below—Method of supporting boiler room ducts against bulkheads in an all-welded angle iron framing. Boiler room plan shown on second following page.



Hoods G-G, F-F, I-I were constructed complete in the Zeller shop, but hoods H-H and E-E were too large to handle so were made in sections and bolted or riveted together in place.

In most places the duct work was erected from scaffoldings on horses as complete sections, the section dimensions shown on the plan permitting ready erection with two and three-man crews.

Boiler Room Supply System

Quite different in construction from the system just described was the boiler combustion air supply system shown in another half plan and elevation. This duct work was black iron in 11-gauge and was all welded. The sections were made approximately 4 feet long to keep weight down, and if the section was not too heavy to handle, a full section was welded in the shop. If the section was too heavy, the panels were cut in the shop and welding was done in the boat with the panels put together in the angle iron hangers shown in details G-G and H-H.

Joints and Brackets

Sections were joined by welding angles all around both ends of each section with the angles flush with the end of the 11-gauge sheet. Then a canvas gasket was placed between the angles and the angles were bolted together as shown in a detail. Where necessary for erection, 2 by 2 by 1/4-inch clips 2 inches long were welded inside the top to pull sections together.

Sections D-D and E-E show welded construction to fasten ducts to beams or the deck. Where ducts run across beams, the top angle was welded continuously to the deck beam. On wide ducts a 1 by 1 by 1/8-inch angle was divided over the joint and the joint was continuously welded inside.

Details

In boat work, precautions must be taken to stop the spread of any fire through the ventilating systems, so fire dampers are provided in the lines just before that line passes through a bulkhead or through a deck.

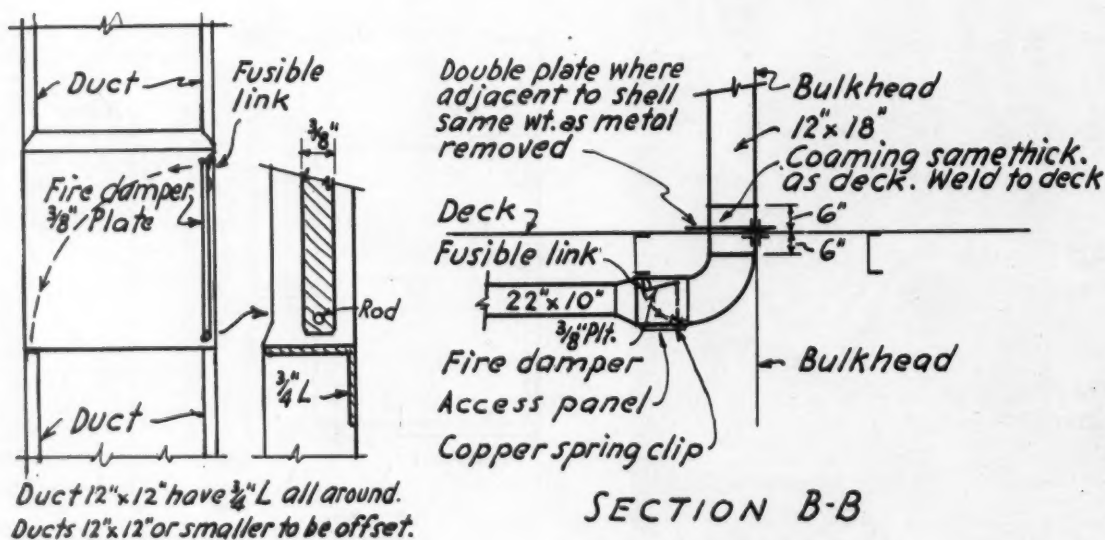
The detail shown as Section B-B illustrates the method of taking a line through a deck. The fire damper is housed in special fitting, usually as close to the deck or bulkhead as possible. The damper is held open by a fusible link. When open, the damper usually lies horizontally above the top of the duct section preceding the damper housing so that the damper presents a minimum of resistance to air flow. When the link melts, the damper falls down and is forced shut by the pressure of the air flowing and held shut by a spring clip. The damper housing is the same gauge as the duct, but the damper is usually about 3/8-inch plate.

Duct Coamings and Collars

Section B-B also shows the coaming through which the duct passes through the deck. This is in effect a collar extending 6 inches above and 3 or 6 inches below the deck. A plate is cut out to fit the duct snugly and welded around the coaming above the deck and is then welded to the deck. The space between the coaming and the duct is caulked against water and air by the weld.

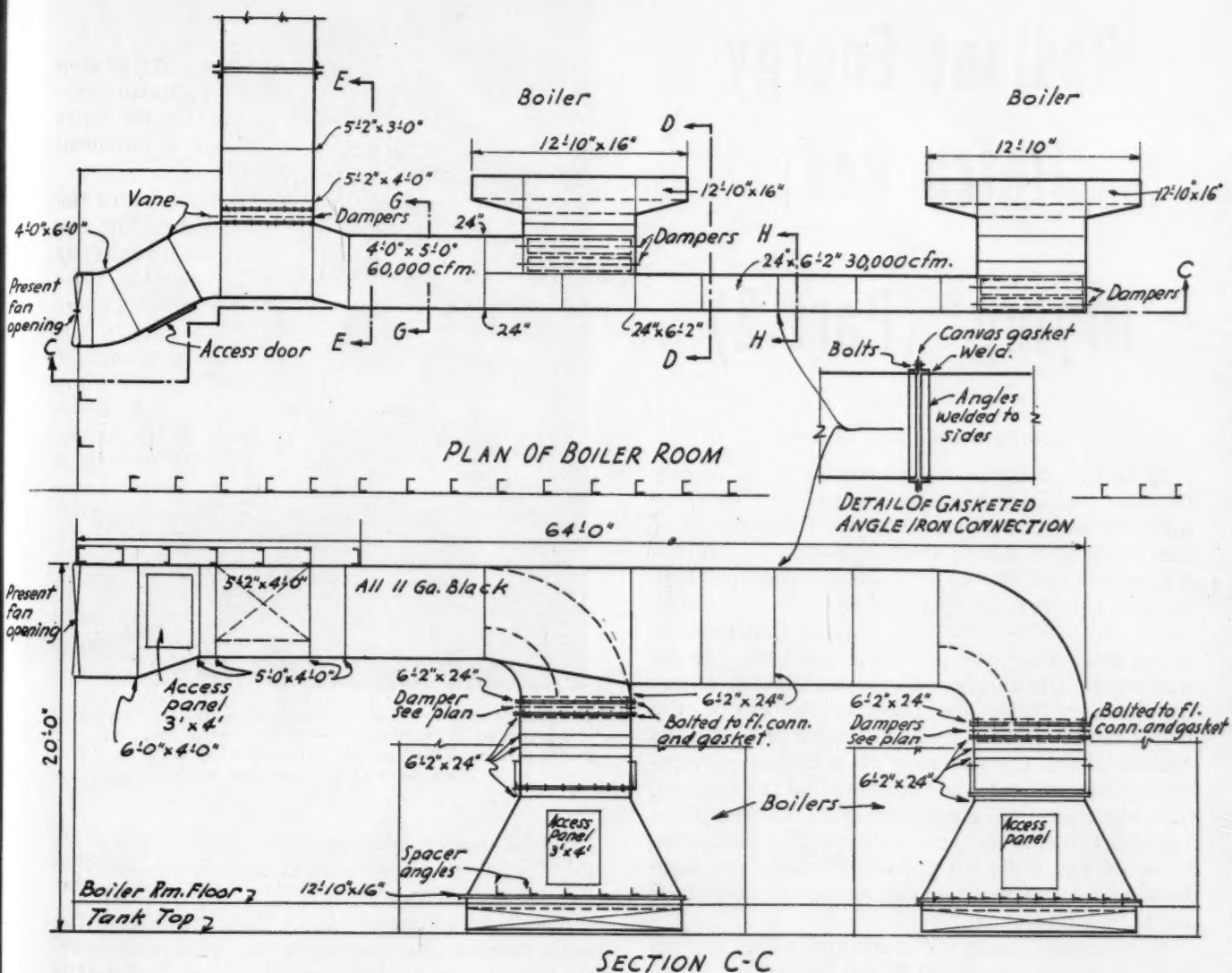
Identical construction is used where the duct passes through a bulkhead, but the duct passing through a watertight bulkhead must be same gauge as bulkhead, generally 3/8-inch plate.

Hangers on light gauge ducts were placed about 6 feet apart and are 1 1/2 by 1/4-inch band iron flanged at the top to be welded to the deck or



VERTICAL DUCT

Fire dampers are important in boat ventilating systems. These details show damper housing in a duct passing through a deck and through a bulkhead. The dampers serve to prevent fire from passing from one space into another. Section B-B also shows the coaming which prevents water entering through the space between duct and deck.

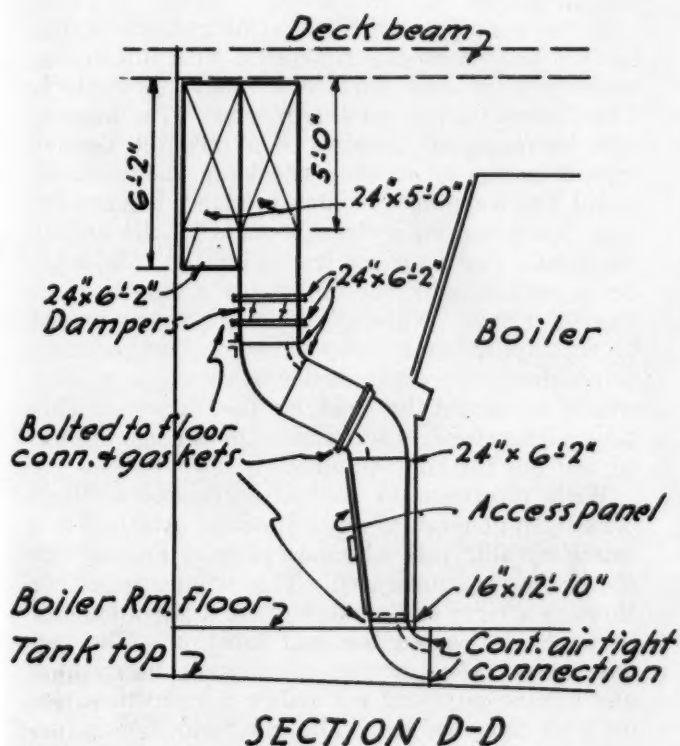


Above is plan of the boiler room boiler combustion air system. Ducts are 11 ga. black iron. All duct work is welded. Section D-D shows drop pipe which carries the air below boiler grates. These duct sections are joined by bolting together two angle iron flanges previously welded around section ends.

beams and wrapped around the duct as a Y-hanger. Three .228-inch holes were drilled through each side and the bottom of the hanger and a No. 14 sheet metal screw was run through each drilled hole and into the duct.

Plans Unusually Accurate

The particular contract described was the first boat ventilating contract taken by the Zeller Company. Zeller reports that drawings showing the work were unusually accurate—much more accurate than the usual building ventilating system drawings, and that construction followed these drawings exactly. This feature went far to relieve any anxiety arising from untried types of work and made it possible for the shop to fabricate sections with certainty that the sections would go into place without trouble. The company now has no fear of doing all of this type of work available.



Radiant Energy

[Infra Red]

Drying* (Part 2)

Temperatures Are Critical

It is still believed by many that it is merely necessary to use a surface pyrometer or thermometer to ascertain the surface temperature of the object and decide from this whether or not the proper baking temperature has been reached. This, if persisted in, may lead to confusion. Illustrations No. 5 to 10, inclusive, show that temperature determinations are quite involved. It depends upon the number of minutes that the object has been radiated, the mass of the object, the point on the object at which contact is made, the contact itself (in the case of a contact pyrometer), the pressure, the roughness of the surface, the skin effect, the room temperatures, and other variables including the polymerizing temperatures of paints which apparently have not been isolated by the manufacturers, or at least have not yet been published.

For example, there was a certain baking experiment that was successful in the laboratory. The manufacturer designed his own tunnel, believing he had duplicated the laboratory set-up. On the first runs in the factory poor results were obtained. A thermometer was first applied. The readings were low, but later on it was discovered that the thermometer was sluggish and for the range in question would require 10 minutes to come up to the true temperature. Unfortunately this was well outside of the baking interval. A contact pyrometer was then tried, the readings of which were afterwards found to be at variance with a calibrated thermopile by a matter of from 20 to 25°F. Incidentally, the room in which the tunnel operated was 20 degrees cooler than the laboratory in which the original tests were conducted. If the pyrometer readings had been accepted as correct, then the blame would have rested directly on the paint manufacturer, but actually it was found that the tunnel design was in error.

Measuring Instruments

The Committee has, throughout this activity, employed a thermopile and microammeter. The hot and cold junctions are contained in almost

*Case study No. 71, Utilities Research Commission, Second Progress Report. Reprinted by permission.

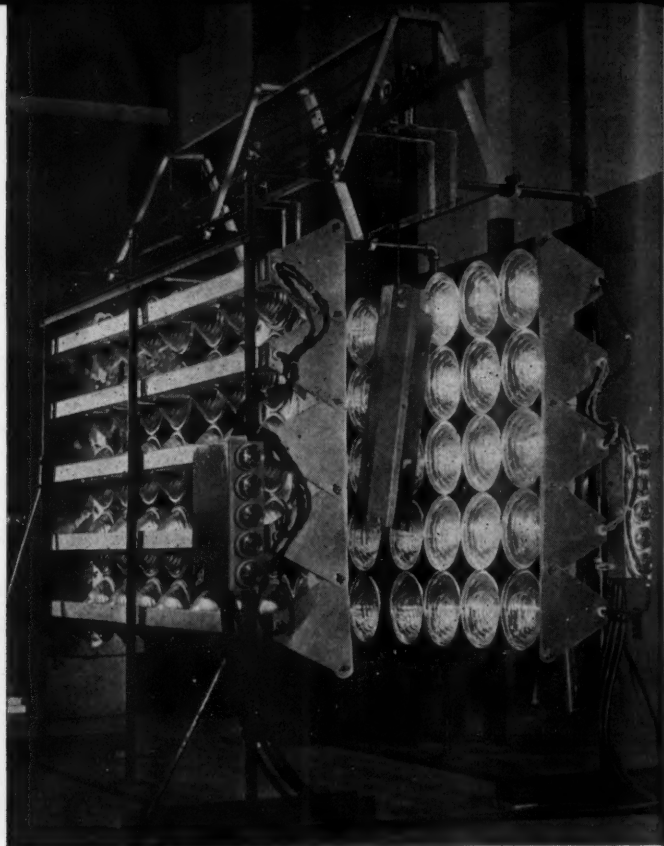


Illustration No. 3. Flexible tunnel with trolley attachment and arranged in "sandwich" form for drying flat, long, thin metal pieces. Compare with Illustrations No. 1 and 2 in April issue, Part 1 of this study.

identical enclosures separated by a distance of 3½ feet so as to remove the cold junctions from the lamp radiation.

Other investigators have been experimenting with vacuum thermocouples for measuring energy density but to date these have not been satisfactory and refinements are being worked on at this time.

In the meantime, purchasers of radiant drying tunnels have been experimenting with immersion thermometers and surface contact pyrometers. The Committee has used both types. The immersion thermometer consists of a straight slender tube 8 inches or so long enclosing thermostatic metal, the warping of which produces a temperature indication on a circular scale at one end of the tube. For a proper indication the tube must be in contact with the object for a length of at least 2 inches. Naturally this is very awkward to accomplish in a lamp tunnel. Furthermore, being short, the whole device heats up to a point where it cannot be held by the fingers. This device, therefore, is acceptable for the use intended, but not for lamp tunnels.

With reference to contact pyrometers, these consist, in general, of a hot junction attached to a small metallic pad which is pressed against the object to be measured. This connects either through a rigid or flexible tube to a galvanometer in which is located the cold junction. The galvanometer is calibrated in degrees Fahrenheit and can be adjusted for either temperature rise or total temperature. The galvanometer is fur-

LABORATORY TESTS ON CUSTOMER MATERIALS AND FINISHES SUBMITTED THROUGH SALES DEPARTMENTS

Successful Code No. or not	Description of Operation	Dimension of test sample	Description of Finish	Reflector mounting height from work	Baking time	Watts Max. per sq. in. °F
4	Yes Agricultural Implements—Baking out air-dry enamel.....	No. 18 Ga. 12"x24"	International Harvester Co. Tractor Red No. 1102-TS-36..	16" R*	9 min.	2.6 ...
9	Yes Brass Sheet—Baked out synthetic enamel on brass sheet test plates.....	No. 22 Ga. 5"x13"	Maas & Waldstein No. 42 White Raydur enamel.....	16" R	5 min.	4.6 275
14	Yes Bomb Fins—Baking out primer coat....	No. 16 Ga. 8"x8"x10"	Sherwin-Williams Zinc Chromate (Medium Yellow— Alkyd Type)	16" R	5 min.	5.4 275
15	Yes Bomb Fins—Baking out finish coat.....	Same as No. 14	Sherwin-Williams Lead Chromate (Medium Yellow— Finish Coat)	16" R	5 min.	5.4 275
21	Yes Coal Stoker Hopper—Baking out wrin- kle finish	No. 14 Ga. 12"x12"	P. D. George Co. Pedigree Maroon Wrinkle.....	16" R	7 min.	4.1 ...
22	Yes Caskets (Metal)—Baking out primer coats	No. 22 Ga. 4"x10"	Dupont primer (urea-formaldehyde type).....	18" R	5 min.	4.9 340
23	Yes Caskets (Metal)—Baking out primer coats	Same as No. 22	Dupont primer (Alkyd type) No. 66252.....	18" R	5 min.	4.9 340
25	Yes Caskets (Metal)—Baking out clear fin- ish coat	Same as No. 22	Dupont clear synthetic finish coat No. RKX2755.....	18" R	7 min.	4.9 350
30	Yes Electric Roaster Parts—Baking enam- el on electric roaster parts.....	No. 20 Ga. 4"x10"x20"	Lilly No. 688B semi-gloss black synthetic enamel.....	16" R	4 min.	4.1 ...
36	Yes Fluorescent Reflector—Baking out syn- thetic finish on fluorescent fixture parts.	1 1/4"x2 1/2"x26"	Nubian silver Hammerloid No. 993.....	16" R	8 min.	4.5 ...
38	Yes Fluorescent Reflector — Baking out enamel	No. 20 Ga. 11"x12"x48"	Maas & Waldstein No. 42 White Raydur enamel.....	16" R	10 min.	4.6 ...
39	Yes Fluorescent Reflector — Baking out white synthetic enamel.....	No. 22 Ga. 3"x5"x36"	Zapon Brevolite White No. QS-686-B603; Midland Ind. Finishes White No. XE119 and M&W No. 42 Raydur...	6"	10 min.	6.0 ...
40	Yes Fluorescent Reflector—Baked out syn- thetic finish	No. 20 Ga. 14" dia. 48" lg.	Olive green synthetic enamel.....	16" R	7 min.	5.7 ...
42	Yes Fluorescent Reflector—Baking out syn- thetic enamel	Trough 4"x5"x24"	Maas & Waldstein No. 42 White Raydur enamel.....	12"	10 min.	4.0 ...
43	Yes Fluorescent Reflector—Baking out syn- thetic enamel	Same as No. 42	Rinshed-Mason Co. white enamel No. XR-4156.....	12"	12 min.	2.0 ...
45	Yes Fluorescent Reflector—Baking out syn- thetic enamel	Same as No. 42	Sullivan Varnish Co. black wrinkle enamel No. 3024.....	12"	9 min.	4.0 ...
66	Yes Porcelain Enamel—Dried out porcelain enamel	No. 20 Ga. 4 1/2"x10"	Wet porcelain enamel sprayed coat (45 grams per sq. ft.).	6"	2 min.	6.0 ...
71	Yes Radio Cabinets (Metal)—Baking wrin- kle finish	No. 20 Ga. 6"x9 1/2"x8 1/2"	Nubian Paint Co. black corduroy No. 902.....	16" R	15 min.	4.6 ...
81	Yes Water Heater Parts—Baking synthetic finish on water heater jacket.....	No. 20 Ga. 18" dia.	Ault & Wiborg white Polymerin 100 (has lacquer char- acteristics)	12" R	4 min.	2.7 ...

"R" indicates that test tunnel was in radial (or cylindrical) form. In these cases watts per square inch measurements were made on a narrow plane at the center of a radial or cylindrical type tunnel where the lamps all point in and radii are marked. These figures do not necessarily represent the concentrations on an article in the tunnel. The actual concentration on any piece through the tunnel depends on its size and shape.

nished with a handle and the flexible or rigid lead is presumably long enough to keep the galvanometer outside of the radiated area. The instrument may be purchased with a variety of contacts for different types of work. The most suitable, in our opinion, is that in which the couple extends slightly beyond the enclosure so as to more likely assure good contact. There is a spring behind the couple which keeps it pressed forward. Some of the other flush contacts, in our opinion, might furnish poor contact or none at all.

Contact should be made at quite a number of points and the results averaged. Furthermore, these same points should be repeated theoretically at 1-minute intervals so as to establish a time-temperature curve. However, natural "build-up" of heat in the metal parts of the pyrometer makes rapid or continuous testing inaccurate. For example, a temperature may be taken at a point of considerable energy concentration and immediately afterwards moved to a point of lower concentration in order to obtain average results. However, before the lower point can be read the instrument must be allowed to cool to a point judged to be at least as low as the temperature to be measured. There are other variables some of which were mentioned previously. With the rigid connection the tendency is to bring the galvanometer too close to the tunnel, and the Committee favors the flexible connection, and of such a length that the galvanometer is not less than 4½ feet from the hot junction. Testing Department equipment includes both immersion thermometers and contact pyrometer, but the apparatus most relied upon is the thermopile and microammeter.

Cost of Tunnels

It is considered desirable to acquaint prospects with rough cost figures on the purchase, installation and operation of radiant drying tunnels. Although the customer may be convinced that radiant heat will solve his problem technically, yet it may be in his mind that the cost is prohibitive. The cost of operation is not difficult to figure when the laboratory trials have been concluded, but as to tunnel costs there seems to be less knowledge. We therefore submit the following. The cost of an 88-lamp flexible tunnel similar to that used in the Testing Department is listed by a Chicago manufacturer at \$483.00. If sold to the user through a utility or through the jobber-contractor channel, the discount would probably be 25% off list, making the net cost \$326.28. This price includes wiring channels, receptacles, reflectors, mounting straps, slotted end-plates, pipe stems, etc., but does not include wiring.

The estimated cost of erecting, wiring, and connecting is \$150.00. If 250-watt tungsten-filament drying lamps are used the lamp cost is approximately \$72.40 net, making a total for the tunnel installed and connected ready to use of \$584.68.

The above figure does not include trolleys, con-

veyors, etc., which are usually handled separately or are already part of the production machinery of the plant.

This cost may be contrasted with two convection ovens with which the Committee is acquainted, one having a capacity equivalent to a 15-kw tunnel and the other equivalent to a 90-kw tunnel. The cost of the former oven is \$1000 and of the latter \$3200.

Paints, Enamels and Lacquers

After experience with many synthetic enamels, the Committee concludes that manufacturers' baking schedules mostly fall in the "250°F-275°F for 1 Hour" class. Finishes of this type are readily cured under infra-red heating lamps in from 5 to 15 minutes, depending on the baking schedule temperature, the reflection factor of the paint, and the watts per square inch applied.

Usually, finishes are divided into natural and synthetic resin types. This statement may be expanded somewhat by a simple classification of finishes arranged according to their adaptability to infra-red or radiant heating, starting with the natural resins which are the least adaptable.

1. Natural resin enamels and paints.
2. Phenolic type enamels.*
3. Alkyd type enamels.*
4. Urea formaldehyde-alkyd type (low percentage of U. F.).*
5. Urea formaldehyde type (higher percentage of U. F.).*

*All items thus marked are synthetic types.

The first three types are largely cured by oxidation. Heat is beneficial but not absolutely necessary, i.e., they may be cured by air and heat. However, the natural resins are sometimes adversely affected by high temperatures.

The so-called "wrinkle" finish falls between the second and third classes. This particular finish can be removed from the oven or tunnel after it has wrinkled. Although not entirely "set," the remainder of the cure is attained at room temperature in a comparatively short time.

Urea formaldehyde finishes are generally most susceptible to lamp curing. As the percentage of urea is increased these enamels improve in hardness of cured film. This is true up to a point where further addition of urea results in objectionable brittleness of film.

As we descend in the foregoing list, heat becomes more and more necessary to cause the conversion or polymerization of the synthetic resins to a hard, cured finish. In other words, the natural resins are generally air-dried or oxidized, and the urea formaldehyde synthetic resin type of finish must be cured by heat. There are literally hundreds of modifications of finishes in between.

Paint manufacturers have over a period of years developed time-temperature curves for their products as related to convection ovens; that is, up to temperature of, say, 300° F., with an extra-

(Continued on page 76)



Frank Schieder is turning out plenty of brass for his son in the Navy

Here he is showing Radioman Bob—recently home on furlough—how one of the special heat control mechanisms, used by American Brass, operates to produce metal of the correct temper.

Frank Schieder doesn't need an "E" pennant to remind him of the importance of all-out production for war needs (although he's proud of the one his plant is flying). He has an even better reminder in his son, Bob... Radioman, U. S. Navy.

It's like that, too, with thousands of other American Brass workers who have sons and brothers and other kith and kin in the armed forces. They aren't producing just the finest copper and brass, but war materials for them... to help speed the day of victory. Over 3,500 former fellow workers, themselves, are now serving with Uncle Sam.

You'll find the same urge to produce for victory in all thirteen plants which The American Brass Company operates in the U. S. A. and Canada. They are turning out the greatest volume of copper and brass in the company's history—and expect to produce still more... all of it for war use. They consider their Army-Navy "E" pennants only a challenge.

United America is pulling together

As citizens and as a nation, American people are united in fighting this war—on the battle front and on the home front... buying War Bonds... conserving rationed materials... making

the best of shortages... doing their part wherever they can.

For instance, sheet metal workers, despite lack of their standby metal, copper, are doing a valuable job of helping maintain comfort and security on the home front. Through inspection, ingenious repairs, advice and maintenance, they are preventing many a small trouble from developing into a large one during this emergency.

434207

THE AMERICAN BRASS COMPANY

General Offices: Waterbury, Connecticut
Subsidiary of Anaconda Copper Mining Company
In Canada: Anaconda American Brass Ltd.,
New Toronto, Ont.



Anaconda Copper & Brass

A New National Association Is Formed to Represent Furnace Dealers, Sheet Metal Contractors and Allied Trades

A NEW National association to represent sheet metal contractors and fabricators, warm air heating dealers, air conditioning contractors, roofers, and allied trades is in process of formation.

Many readers affiliated with local and state associations have heard of the efforts being made to form this association and many contractors have been circularized to participate in the formation meeting. At the Illinois State association convention, reported in this issue, Illinois members in attendance agreed to join such a national association providing the dues were between five and ten dollars per year. As reported in past issues, the New York state association has authorized its secretary, Clarence E. Meyer of Buffalo, to launch the formation of the new association.

Through the efforts of Mr. Meyer a meeting was held in the Drake Hotel, Chicago, May 29, for the purpose of sounding out representatives of associations and individual contractors. Letters received by Mr. Meyer indicated numerous associations willing to participate in a preliminary meeting; also individual contractors expressed interest and a willingness to attend. At the meeting held May 29, 27 individuals attended the meeting representing the state associations of Wisconsin, Illinois, Michigan, and New York; also local associations in Chicago, St. Paul, Minnesota, Detroit, Buffalo, N. Y., plus some individual contractors and representatives of the three trade papers.

Everyone Is for an Association

The consensus of opinion at the meeting was that formation should be tried, so a tentative chairman (George Harms) and secretary (Clarence Meyer) and a tentative set of by-laws for the association were discussed and set up. A constitution committee was appointed to make a tentative draft of the by-laws and these will be announced shortly. Some indications of the sentiment for a national association were expressed as follows—Paul Biersach reported that the Wisconsin state association believes that a new national association is necessary and that Wisconsin members no doubt will join and contribute on any established basis. Homer Selch wrote that the Indiana association is interested and will act on any information supplied. N. J. Biddle, reporting for Michigan, stated that the state association quite likely would join individually or as a body and that action will be taken as soon as possible. R. E. Walsh of St. Paul reported that Twin City contractors and associations are interested and quite likely would "go along" with any formation. Rudy Guenther, reporting for the Chicago Central Committee said the Chicago associations probably would participate as groups or individually. W. J. Perkinson for the Sheet Metal Con-

tractors of Cook County, Illinois, reported that his association was definitely interested.

Objectives

Objectives of the new national association will be to provide national representation in any and all problems which effect the warm air heating, sheet metal contracting and allied industries. At the present time numerous problems resulting from restrictions of activities demand attention and get no hearing when the complaints are entered by individuals or even small associations. For example, the copper recovery prices have not been changed despite the fact that numerous individuals and a number of small associations have complained, but a national association might get some relief from the present price schedule. The same situation applies to the steel recovery schedule and contractors might assist manufacturers of furnaces and other organizations in presenting the needs of the industry for furnaces and accessories during 1943.

The name tentatively selected was the National Association of Sheet Metal Contractors. The purpose of the new organization is to form an association which shall be organized to provide national representation for all employers engaged in sheet metal contracting and allied trades.

By-Laws and Dues

Under the discussion of the various by-laws required for formation, it was decided that individual firms may join the national association by obtaining approved membership. Where there is a state or a local association, membership in the national should be through the state or local association. Members of the National association may vote in person or by proxy on all questions arising. Tentatively, membership dues shall be \$5 per year per individual.

In order to arrive at an orderly procedure, a constitution and by-laws committee was established consisting of Clarence Meyer, Chairman, N. J. Biddle, R. E. Walsh, Paul Krueger, Edward Pluth, Rudy Guenther, J. D. Wilder. This committee will study and prepare a tentative constitution and by-laws to be submitted at the next meeting.

If possible, another meeting will be held within the next sixty or ninety days in Detroit.

Meanwhile, a report of the Chicago meeting will be distributed and suitable publicity will be presented in the trade press. For the time being, at least, membership will be solicited first of all through state and local association membership and later throughout the industry.

Since it takes money to operate any association, pledges were taken resulting in something over \$400 subscribed to defray initial organizing expenses. Subscriptions are also welcome from anyone interested.

Sheet Metal Distributors Talk War Problems

THE "War Conference" of the National Association of Sheet Metal Distributors, held in Cleveland, May 17 and 18, was, in fact just such a conference with discussions of problems raised by the war overshadowing all else in the sessions.

National President Eugene Foley, Bayonne Steel Products Company, described the fine relationship between WPB and OPA and the membership, and assured the governmental agencies of the support of the entire industry.

Schedule 49 to Be Revised

E. L. Wynn, Head, Warehouse and Jobbers Section, Iron and Steel Price Branch, OPA, Washington, recounted that there were over a half million customers for sellers in Class A before CMP so that merchant trade problems (pipe, wire and tubular goods) were many for the eighteen hundred jobbers of merchant trade goods. The 1300 general steel products had even a wider distribution through wholesalers and distributors. Mr. Wyman said that Schedule 49 will be revised and will contain major revisions of price schedules on secondary and rejects of heavy steels and those classified as primes. Amendment No. 14 to Schedule 49 will set up dollars and cents price ceilings on these two classifications for the Eastern Zone as a starter, but similar price schedules will be set up on a basis of zoning for the entire country. Zone distribution prices will be established by tables and schedules for wholesalers and distributors with April 16, 1941, as the base date for the industry.

Future pricing plans include the making of whole schedules to make them more specific on all products. In answer to a question from the floor about the inability to get Steel Recovery Corporation's excess steel to sell at a profit, as in Schedule 49, the speaker mentioned that two factors made this situation difficult, i.e., the seller to the Steel Recovery Corporation and the buyer, both of whom wanted a profit to be satisfied. An Amendment to Price Schedule 204 provides that a manufacturer or anyone having steel in stock with which to make an Emergency Sale be permitted to do so at no expense to himself provided, of course, that the Emergency Sale was bona fide.

CMP and L-22

Mr. J. R. Stuart, Chief, Warehouse Branch, Steel Division, WPB, Washington, said that to his knowledge no new orders are in the offing and that violations were insignificant in number among distributors and wholesalers. Mr. Stuart explained that under CMP jobbers and distributors should have comparatively few problems in the replacement of stocks, and that a study indicated that CMP will solve a great many of the problems of the jobbers and distributors when it is fully effective in the third quarter. The rumors that steel was easy, or would be easier, were nailed as lies by Mr. Stuart and he pointed out that under CMP changes would be made in M-21-B1 and M-21-B2 on or about July 1, 1943. The Government is planning to publish a very comprehensive list of questions and answers on CMP and all steel orders.

Mr. George C. Hench, Plumbing and Heating Section, Industrial and Hardware Supplies Branch, WPB,

advised the convention that the new L-22 is in circulation within WPB and that Mr. Wilber, Chief of the Plumbing and Heating Section, had told him that because the allotments of carbon steel had been severely cut for the coming quarter, the outlook for the manufacture of steel furnaces did not look hopeful. The shortage of steel makes it imperative that WPB try and get as many cast iron furnaces produced as possible. He pointed out that in the first and second quarters more steel was made available for stove and smoke pipe. Gutter and conductor pipe will be available, but only in quantity for the most essential needs for replacement and repair. Mr. Hench said that L-63 and PD-1X were being revised, the L-63 revision being made to enable jobbers and distributors to build a better inventory. He also pointed out that jobbers do not have to worry about P-84 when using PD-1X. PD-851 from the Plumbing and Heating Section will replace the letter required from consumers under L-79 and should be used when cost of installation is \$200.00. On higher cost installations PD-200 and PD-105 should be used. While L-79 has been withdrawn, it will be reinstated within the next few days. Mr. Hench further stated that all stoves will be rationed by OPA, but distribution will be handled on PD-1X.

Mr. Henry Dinegar, Chief, Consumers Durable Goods Branch, OCS, WPB, warned that sudden optimism about availability of metals for civilian needs was not warranted and suggested standardization as one plan which has helped some industries.

Copper Situation

Mr. Ernest B. Humpstone, Copper Division, WPB, announced that the production of new copper in the United States had increased 55 per cent in 1942 over 1940, but that 1942 war demands required three times our five year average production and in 1943 a 50 per cent increase would have to be made with about one-third of the total coming from scrap of copper and copper alloys. He said M-9-C as amended May 7, 1943, shows that the A and A1 lists are still effective and that those products falling on list A2 would have to face conversion to other metals. He said M-9-C4 of July 22, 1942, the freezing of copper or copper base alloys materials, such as gutter, leader and conductor pipe, was made so that this essential war material could be conserved. A new form requiring a copper or copper base alloy inventory to be furnished the Copper Recovery Corporation will be mandatory so that this corporation will have ample data on which to base sales on this strategic material to Ingot makers or for use as in the war effort.

Mr. Philip N. Russell, Chief, Hardware and Mill Supply Unit, Consumer Durable Goods Branch, OPA, explained in great detail the dangers from any inflationary spiral and declared victory on the home front over the forces contributing to such inflationary measures was as essential as victory on the battle fronts. He pointed out that all of the acts of OPA would be an empty gesture without the fullest cooperation between wholesalers and retailers and the forces of the Government who were committed to controlling any inflation within the United States. In general, all sell-

(Continued on page 74)

N.W.A.H. & A.C. Ass'n Mid Year Meeting

THE one-day, 1943 Mid-Year convention of the National Warm Air Heating and Air Conditioning Association, held May 26 in Chicago, provided members and guests with a wealth of thought-provoking suggestions on what the industry may do to cement its present standing as the leading provider of heating and air conditioning equipment and what the industry can do now toward post-war preparation.

Probably the most provocative discussion of the convention was presented by P. B. Zimmerman, chairman, Publicity and Merchandising Committee, who presented the outline for the Indoor Climate Institute—this industry's contribution toward post-war planning. This program is reproduced on other pages in this issue and warrants careful study.

Also of interest to manufacturers, jobbers, and contractors was the discussion on "The Dealer Situation," on which, in the final analysis, all programs must be based if this industry is to continue in its leading position and obtain its fair share of the post-war construction dollar. This discussion, presented by C. E. Price, Keeney Publishing Company, Chicago, is also reproduced on other pages in this issue as the first article in a series of discussions of post-war planning problems.

Six Month's Report

In the absence of President H. S. Sharp, who could not attend the convention, Vice-President H. C. Mueller presided and, in opening the convention, pointed out some of the activities which the association has carried on with numerous government agencies. Some of these government agency contacts have worked on such problems as—a new draft of the proposed rating for coal-burning furnaces; an inter-industry conference covering chimney furnaces; production schedules for all types of heating equipment under the manufacturers' Limiting Orders.

Vice-President Mueller said the association is finding some lack of interest in post-war planning as evidenced by a questionnaire from the Research Advisory Committee to manufacturers asking what new products are under way. As a future program the association hopes to stimulate interest in short courses so that more colleges will present these courses and to prepare a dealer and school text book covering all types of warm air heating.

Research Report

Research Advisory Committee Chairman F. G. Sedgwick reported questionnaires were mailed to manufacturers and said that from the few questionnaires received it is evident that many manufacturers propose to offer the same general types of heating systems as were offered before restrictions with perhaps better control systems, smaller casings and units, and a system of standard duct sizes. Most manufacturers are interested in better fuel consumption and there is, surprising interest in vaporizing type oil-burner units. Very few manufacturers believe that the prefabricated house will be the big production item claimed by some agencies and manufacturers believe that the individual type of house will continue to predominate. There is increasing interest among manufacturers in various

methods of panel heating and there is also considerable interest in the very small type of furnaces which may be developed from the war-type airplane and hutment heaters.

As to government agencies contacts, Mr. Sedgwick pointed out that the association tried to convince the housing agencies in Washington that certain recommendations such as baseboard register locations should be adopted. The agencies did not accept our association recommendation and it was only when failure developed that the agencies came back to our original suggestion.

The Research Advisory Committee has become interested in the smoke consuming bituminous coal furnace developed at the University of Illinois and will study the possibilities of this unit during the coming heating season. The Advisory Committee will also launch some investigation into panel heating and there is some talk of building a modern type small home to test panel heating. Mr. Sedgwick also pointed out that the Research Advisory Committee and the Research Staff had told housing agencies that the so-called "gutless wonder" was not a completely satisfactory unit and events have proved this to be so. Now, FHA and FPMA have asked the Bureau of Standards for a standard product and a rating formula, but the Association believes the rating formula of the Standard code is still satisfactory within the formula's limitations. For all units up to an 80,000 Btu per hour rating, after much conferring, the Bureau of Standards and the Association are in agreement on a rating formula for furnaces having standard ratios of prime heating surfaces to grate area, but a new rating formula is required for the small ratio unit now being used in defense housing. Under the proposed Bureau of Standards Rating, every manufacturer must make his own tests in his own plant or employ a recognized engineer. This Bureau of Standards formula the Association has agreed to approve. Manufacturers will receive the tentative standards within a short time.

Rating Formula Report

Prof. A. P. Kratz presented a discussion of the Bureau of Standards rating formula and explained that the association has used the Standard gravity rating code for some 25 years and has found this code satisfactory on practically all installations. The five factors on which this association rating code is based are combustion rate, efficiency, grate diameter, register temperature, draft and on all furnaces with ratios of prime heating surface to grate area between 16 to 1 and 28 to 1, this Standard Gravity Rating Code has proved satisfactory.

The Bureau of Standards Rating Code proposes to abolish the actual operating conditions under which our own gravity rating code was established and to substitute therefore a laboratory furnace in which a fan is used to maintain atmospheric pressure in the system. The Bureau of Standards believe that this will establish comparable operating conditions. In one test set up, the fan will be installed on the cold air side and in an alternative set-up, the fan will be on the register side, but in both cases atmospheric pressure

will be maintained. Our own tests indicate that gravity air delivery is directly proportional to combustion rate and that air volume passing through the system increases as the combustion rate is increased, which would not be the case in the Bureau of Standards test set-up. Under Bureau of Standards tests you would get the same air volume regardless of combustion rate, but you would obtain a higher register temperature, and hotter heating surfaces. The Bureau of Standards also wishes to express capacity in terms of the grate area on forced air systems, but our investigations disclose that this is not practicable because capacity changes in proportion to air volume passing through the system, so on fan jobs, capacity must be stated in terms of combustion rate and air delivery, and not in terms of grate area alone.

This whole discussion regarding a proposed Bureau of Standards test set-up is in process of discussion and we hope to publish something on the status or final decision of the argument as soon as possible.

Fuel Conservation Methods

Prof. S. Konzo reported on studies in fuel savings and cautioned the industry to watch closely and to criticize where possible some of the "baloney" now appearing in popular magazines regarding future methods of heating. Typical of these unsupportable theories which are being pushed on the public is such statements as with 50 deg. walls in panel heating 80 deg. can be maintained inside the rooms; new types of filters will mean the housewife can throw away her vacuum cleaner; low temperature infra-red heating (radiant heating) will be a startling new method of heating after the war; electricity will be as economical a fuel as hand-fired coal; lowered window shades will save 10 per cent of the fuel bill and cleaning out the furnace will save 25 per cent of the fuel bill (the actual saving is about 5 per cent). A most startling statement recently to appear claimed that by maintaining 65 deg. indoors, any home owner can get by on his fuel oil allotment—whereas we know that this is possible only in the very best type of a tight house. Insulation in the ceiling is claimed to save 25 per cent of the fuel and insulation in the walls and ceiling to save 70 per cent of the fuel consumption but the hitch is that these figures actually apply to the reduction in heat-loss through the wall and have nothing to do with the over-all house fuel consumption.

Saving by Closing Rooms

During the past heating season, several tests on fuel conservation were conducted at the Research Residence. The first test was to see how much saving would be effected by shutting off certain rooms in the Research Residence. Readers familiar with the floor plans of the Research Residence will recognize the rooms shut off; these were the East bedroom, the East dormitory, and the Sunroom. The total floor area of the Residence, all rooms included, is 2,133 sq. ft.; the total volume is 17,790 cu. ft.; the heat loss is 51,140 Btu. With 2-speed fans and the gas consumption maintained uniform, cutting off the sunroom reduced the floor area of the rooms heated by 6 per cent and reduced the gas consumption by 5 per cent. Cutting off the east bedroom and the east dormitory reduced the floor area 18 per cent and reduced the gas consumption 10½ per cent. Cutting off the east bedroom, the east dormitory, and the sunroom reduced the floor area 25 per cent and reduced the gas consumption 25 per cent.

But these figures do not prove anything because there is no proportionate scale to establish fuel reduction according to floor area. It just so happened that the figures in the Research Residence worked out as shown above. Actually, there is no basis for comparison. A very interesting parallel test conducted in the test house of the Institute of Boiler and Radiator Manufacturers showed absolutely no fuel reduction by cutting off rooms.

A summary of the reduction is about like this. With forced air heating, cutting off registers and therefore rooms, establishes greater resistance throughout the system, raises the bonnet temperature of the furnace, raises the flue gas temperature and does save some fuel but how much no one can tell. Each house must be a case of trial and error.

Fireplace As Auxiliary Heat

A second test was to determine how much fuel saving is possible by using the fireplace. The fireplace in the living room of the Research Residence was used and when the thermostat was left in the dining room across the hall from the living room and burning 35 pounds of coal in the fireplace from 4 p. m. to 10 p. m., the living room temperature rose from 76 to 80 deg. but there was no reduction in the house gas heating consumption. When the fire in the fireplace died down, the fireplace acted as a flue and more gas was consumed.

With the thermostat moved to the living room, the thermostat was kept satisfied by the fireplace from 4 p. m. to 10 p. m. and over a period of 24 hours, some fuel was saved because the house temperature did not follow the thermostat and therefore dropped below the thermostat setting while the thermostat in the living room was satisfied. The same result could be obtained by reducing house temperatures.

A summary of the fireplace as a possible fuel saver is generally—the fireplace may be effective in mild weather but is no good in windy cold weather because of the large amount of warm air lost through the fireplace. The fireplace will not save fuel unless the thermostat is located in the room heated with the fireplace.

Morgan Johnston, Plumbing & Heating Division, War Production Board, reported that the concentration order under which certain types of furnaces will be manufactured by certain manufacturers, has been definitely abandoned. Mr. Johnston also reported that L-22 and L-22-a are still under discussion and, while everyone expects and hopes that the orders will be released soon, no final report is possible at this time.

As to the prospects for the production of steel furnaces for civilian use, Mr. Johnston reported that the nation's steel allotment has been severely curtailed for all agencies including the Army, Navy, etc., so that there does not seem to be much hope for civilian requirements being filled by steel furnaces. During the third quarter the steel allotment for all claiming agencies was severely cut back.

Some manufacturers reported that stocks of steel suitable for production of furnaces are being offered by certain jobbers and sheet distributors and wondered why, if these stocks were available, steel for furnaces could not be obtained from the usual allocation channels of WPB. Mr. Johnston reported that the only steel allocated to industry came from the National stock pile and that he did not know where these stocks came from or why the stocks were in existence, but manufacturers could not use them. If the manufac-

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Illinois Association, in Convention Assembled, Votes to Join a National Organization

THE most important piece of business to be transacted at the May 5th and 6th convention of the Sheet Metal Contractors' Association of Illinois was the unanimous agreement of all members attending the convention to join a new National association, as soon as such an organization is formed, and to pay to the support of such a National association dues from \$5 to \$10 per year.

By this action Illinois takes the lead by agreeing as a body to join a new National association and to contribute substantially to the expenses of such an organization. This move on the part of Illinois association members ties in with the work which was begun by the New York State association when the New York Board of Directors authorized State Secretary Clarence Meyer to sound out other state association officers and also the better known sheet metal contractors and see whether or not a new National association could be formed.

Illinois took another constructive step toward a National organization when the Association asked George Harms to assume the honorary chairmanship of the association's campaign to assist in the formation of a National association. Mr. Harms, from many years' experience with the old national association, is unquestionably the best qualified man in the Illinois organization to advise and guide the formation attempt. As chairman, Mr. Harms was authorized to take immediate action, to contact other State association officials and anyone else who might be interested and see if formation can not be put under way immediately.

In this connection readers are requested to review our report of the preliminary National association meeting held in Chicago May 29.

National Association Summary

One afternoon session was given over to discussion of the National association problems. The discussion was opened by J. D. Wilder, editor of *AMERICAN ARTISAN*, who briefly reviewed some of the history and accomplishments of the first association. He also described the attempt to form a National association beginning in January, 1940, and dragging along without much accomplishment for approximately two years' time. The speaker explained that his personal opinion was that the association died without a chance because a \$2 per year membership was agreed upon and no one State or local association agreed to join with its complete membership; that it is difficult to obtain membership of individual firms who are not members of strong local or state associations without first trying to obtain as members every member of a state organization. State association members are association-minded and understand what must be done to make an association function.

The speaker explained what had been done by the New York State association to interest various organizations in a new association and then he discussed some of the questions which make a National organization seem necessary. There is, for example, the question of labor jurisdiction after the war when a

tremendous building program estimated to range from 900,000 to 1,600,000 houses is confidently predicted. Only a National association of contractors can make certain that our type of heating system and our type of exterior metal protection is included in the plans for this housing program and that the design and installation processes and the suitable equipment we have available is both specified and installed in these houses. Only a National association can make certain that other trades do not try to take away some of the work we should do. Only a National association can hope to settle disputes over union and non-union wage scales and other trade problems. While it is now too late to do much with the restrictions which hamper our efforts to maintain heating systems in buildings, the present lack of a National voice should make contractors more certain that in the post-war period our industry is nationally represented in any problems of materials, codes and ordinances, materials, installation practices, etc.

At the conclusion of this summary of the situation, Mr. Harms was asked to explain what he thinks can be done to stimulate interest in a new association and what definite and constructive measures can be taken to start the ball rolling. Mr. Harms suggested that the most constructive move would be to have the members of the Illinois association agree to join a National association and pay dues to the new association. A vote was taken and members were asked to stand if they would contribute and join. The agreement was practically unanimous. The discussion then centered around ways and means to get the organization under way. Mr. Harms was authorized to tell the New York State association what Illinois has done and to agree to any meeting which may be held to further the organization work. The various problems which an association can discuss and service as described in the summary of the situation were discussed in detail by members. The conclusion was that we need a National association and everyone should do his best to contribute toward organization.

Illinois President J. E. Peterson has resigned from the association, as announced in *AMERICAN ARTISAN*, in order to devote all of his time to his new work in the U. S. Engineers' Corps. Joe Walters of Ottawa, president of the association prior to Mr. Peterson's tenure, presided at the opening session.

Jobbers' Problems

Burton L. Wolff, vice-president, Benjamin Wolff & Co., discussed the jobbers' problems in distributing sheet metal. "Sheet metal men, whether contractors or jobbers, must today realistically face the problem of determining whether or not their operations are so organized that they may continue in business under the emergency conditions. Many contractors and many jobbers, unknowingly perhaps, are so close to going out of business that the situation is serious indeed. Contractors engaged primarily in doing industrial sheet metal repair, maintenance, and new construction quite likely enjoy a sufficient volume of priority rated work to endure for the duration. But these contrac-

tors are going to be crowded by the contractors who, up to now, have specialized in new building construction work and are finding this field slackening off. Contractors who live on general repair and maintenance work are also finding it difficult to operate—not because there is a lack of work, but because these contractors are finding it difficult to obtain materials.

"CMP Regulation No. 4 promises sheet metal contractors who have no priority rating or allotment numbers 6,000 pounds of galvanized, hot rolled, cold rolled, or long terne sheets for repair and maintenance work. But there is a serious catch to this, namely, that there has been no provision made for the warehouses to secure enough of these products, especially galvanized sheet, to satisfy each contractor's requirements within the limitations of the order. In other words, sheet metal men are legally authorized to buy, but warehouses do not have the volume on hand to sell. And warehouses have no future means of building up an inventory.

"In the beginning of warehouse control galvanized sheets were distributed by the merchant steel products group of jobbers. According to this plan, each warehouse was to receive, in 1942, the same amount of galvanized that it sold in 1940, and an A-3 rating was granted to warehouses, to be applied on 50 per cent of their galvanized quota. But the rapid inflation of priority ratings very quickly made this A-3 rating no more effective than A-10 rating, since warehouses required at least A-1-j or higher to replace stock. An-

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other problem was encountered by a regulation which permitted a jobber to sell sheets secured on an A-1-j or higher rating only to customers who could give the warehouse an A-1-j rating or higher.

"On general steel products (hot rolled black sheets) the basis for the quota was the sales of each warehouse in the first quarter of 1941. A blanket rating of A-1-k was assigned each warehouse for ordering these products, but even this higher priority could not keep stock in warehouses and within a few months the warehouses literally sold themselves out of business. To correct this condition, WPB directed each steel producer to set up a given tonnage of general steel products which had to be rolled for warehouses. Since that order, warehouse orders for general steel products have been sufficiently high to enable the warehouse to keep small piles of metal in stock. On merchant steel products, no such action was taken, and in regard to galvanized sheets, mills had to produce 2½ per cent of each warehouse's base tonnage in each quarter. This means a total of ten per cent a year. This means that ten per cent of 1940 tonnage is the only free tonnage of sheets that a warehouse is sure to receive. Since warehouses are guaranteed only 2½

per cent of their sheet quota without CMP allotment numbers, the 6,000 pounds of material per quarter contractors are permitted to buy without priority rating is more or less meaningless unless the contractor can furnish high priorities.

"Furthermore, the government instructs warehouses to check against this 2½ per cent quota all steel having an end use for maintenance and repair. CMP authorized MRO orders bearing ratings of AA-1 must be charged against this quota. This practically earmarks the total of 2½ per cent tonnage for rated orders and leaves the general sheet metal business having only unrated orders with the ability to buy and no materials to obtain.

"The sheet metal business, overall, has accepted its role in the war without too much howling and has been fully patriotic in trying to do its part in the war effort, but if the sheet metal industry closes up its shops, it is absolutely certain that eventual repair and maintenance in war plants will suffer severely; many fabricated products used in factories cannot be replaced; a general slowdown in the machinery of war production can result; hazards from corroded smoke pipe can become a definite public danger; inadequate repairs may increase residential fire hazards; increased fuel consumption will occur because systems cannot be placed in efficient operating condition; broken rain conducting equipment can result in germ laden pools and perhaps epidemics.

"The easiest thing would be to criticize WPB, but, generally speaking, the men in Washington are trying to do the best job possible in spreading materials around. These men listen to people who talk to industries which are represented by strong national voices. Complaint must be registered with Washington to get any kind of a hearing. This is work which State and National associations best can do."

Nat'l Warm Air Accomplishments

George Boeddener, managing director, National Warm Air Heating and Air Conditioning Association, explained how the manufacturers' association has presented the needs of the industry to Washington officials on the basis of actual civilian needs rather than upon any basis of industry "wants." The association has suggested that P-84 and L-79 should be revised in order to make these regulations effective insofar as obtaining materials and distributing materials is concerned. Furthermore, the association has explained that Order L-22-A is insufficient for 1943 needs if this order is approved in the same form as it was at the end of 1942. (At the time of the Illinois convention no L-22-a order had been released and the industry does not know how many cast iron furnaces will be permitted or whether or not steel furnace production will be permitted.)

Mr. Boeddener explained some of the research program undertaken by the association at the University of Illinois and described the great contribution to the warm air heating science made by this research program. As a result of this research program, public acceptance of warm air heating was secured so that since 1914 some 9,300,000 warm air heating furnaces were produced and were sold installed with all accessories, ducts, labor, etc., for about \$3,000,000,000.

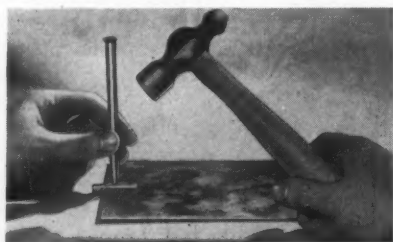
Mr. Boeddener then explained how the construction industry is expected to carry a very large portion of the post war total dollar expenditure for goods and services which is estimated to require from \$900,000

(Continued on page 80)

New PRODUCTS

•31—Damper Regulator Control

Badger Manufacturing & Sales Company, 327 East Brown St., Milwaukee, Wisconsin, has developed a new damper regulator control, simple in construction and easily installed.



The Badger control requires no bolts, rivets, lugs and no holes need be drilled in the damper. Each unit is supplied with two drilled holes, tapering from a quarter-inch diameter in the top segment to a sixteenth inch in the lower segment. The workman need only slip the unit over the end of the damper, then using a Prick punch, he forces the sheet metal into the lower or smaller hole, with a few quick blows of a hammer. The punched sheet metal forms a solid and secure fastening.

•32—Aluminized Steel

The American Rolling Mill Co., Middletown, Ohio, has developed a sheet for products requiring exceptional resistance to heat and corrosion—an aluminum coated sheet with a mild steel base. The sheet will withstand temperatures up to 1,000 degrees without discoloration and will resist severe oxidation at even higher temperatures.

The sheet has the surface-advantages of aluminum with the strength of steel. Corrosion resistance of the Aluminized steel surface is equal to that of an aluminum sheet. When exposed to corrosive attack, a tight oxide film, self-healing and inert, forms on the surface. The metal is passive in most atmospheres and resists "pinholing."

The aluminum coating will not peel or flake in moderate forming or drawing operations. Paint will hold better on Aluminized steel than on ordinary galvanized sheets; yet for most uses the unpainted surface is satisfactory.

After the war it will be available in a finish that can be buffed to a bright luster for exceptionally good appearance and reflectivity.

Although Armco Aluminized steel has all the surface qualities of aluminum, a 16-gage sheet of the coated steel uses only 5 per cent as much

For your convenience a number has been assigned to each item. Circle the items in which you are interested on the coupon on page 62 and mail to us.

△ Indicates manufacturer not listed in 1942 Directory.

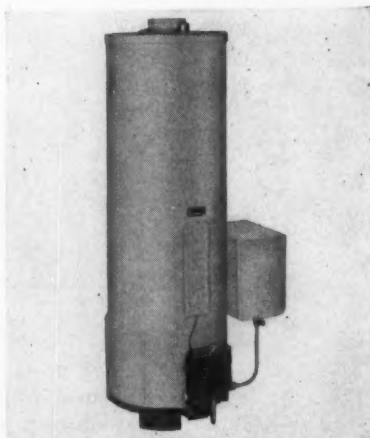
● Indicates product not listed in 1942 Directory.

of the lighter metal as a solid aluminum sheet of the same thickness.

Present aircraft applications include fire walls and air intake filters. It is also being considered for cowl-ing.

33—Automatic Water Heater

J. L. Gillen Company, Dowagiac, Mich., announces a newly designed Gilco automatic oil-burning water heater to meet the specifications and requirements of the Army, Navy,



Maritime Commission, the FPHA, and is listed as standard by Underwriters Laboratories.

The Gilco water heater features Roll Board (Composition Asbestos Fiber) for the casing. Other features are: the Draft Light which automatically regulates the draft and serves as an opening for lighting the burner; Rock Wool insulation; heavy steel tank, hot dipped galvanized inside and out; the improved Gilco burner that burns clean on both pilot and high fire; the water temperature adjustment knob for any temperature desired, and the snap action control with automatic float.

The Gilco water heater is painted in ripple gray enamel, and is available in 20, 30, 40 or 50-gallon sizes.

The 50-gallon size has an 8 in. burner, and the smaller capacities a 7 in. burner.

△34—Serviron Metal Coating

Saverite Engineering Co., 1002 Clinton St., Hoboken, N. J., offers Serviron—a permanent plastic mater-

ial to be applied like paint to protect boiler drums, metal, wood or concrete storage tanks and water-submerged surfaces against corrosion and fungus growths.

Serviron never dries hard and stretches and contracts with temperature changes—eliminating the danger or hairline cracks in the coating which would permit undetected corrosion under the protective surface. When applied to already pitted surfaces, Serviron stops further pitting. It will not melt, freeze, crack or peel at temperatures from below freezing to 500-550 deg. F.

35—A. C. Arc Welder

The Welder Division, Harnischfeger Corporation, Milwaukee, has added a complete line of industrial A. C. arc welders to its line of P&H D. C. machines. These welders are being made in 7 heavy duty and 4 intermittent duty models with a range of capacities for handling production welding under continuous operation.

The new line features the recently adopted "WSR" (Welding Service Range) ratings, which show the minimum and maximum output of usable



welding current. Setting and control of current throughout welding service range involves one simple, easy-to-operate adjustment. Improvements in control make it creep-proof. Mechanical and electrical refinements have shown an increase in operating efficiency with appreciably reduced maintenance cost.



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THE MODERN SHEET METAL

BY combining sheet steel with stearine-cottonseed pitches and pulverized slate we have produced the outstanding successor to galvanized iron and sheet copper at about one-third the cost of copper.

Thoroughly tested against weather, moisture, heat, cold, fumes, salt air and fire. Will not run at 230° F., can be bent double at 32° F., and is classified as fire retardant.

Cheney Metal is tough. It can be sheared, bent, Pittsburgh locked, malleated, die formed, riveted, soldered and worked with regular shop tools.

Forms easily into warm air heating or ventilating ducts, flashings, valleys, gutters, metal roofs, downspouts, termite shields, expansion joints, and all general sheet metal work.

AVAILABLE NOW

SHEETS (All Regular Gauges and Sizes)
CORRUGATED ROOFING, 26" and 27½"
CONDUCTOR PIPE AND ELBOWS
GUTTER
2 AND 3 V CRIMP ROOFING
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Meets Government specifications and while the government is taking a large part of our production we still have plenty of material available for maintenance and repair. Consult your nearest distributor about new low priority requirements. He carries Cheney Metal products in carload quantities.

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STOP HERE for something that's still AVAILABLE!



IN these times when merchandise is so hard to obtain, Fireline is nothing short of a life-saver for furnace men. Your jobber carries it in stock for you; no priorities or permits are needed.

A money-maker for you

Fireline is a highly profitable item, too. Every furnace owner in your territory is a ready-made prospect for a Fireline job. You can sell Fireline to repair burned-out firepot castings in old furnaces and to protect and preserve the castings in furnaces still in good condition.



- Salvages burned-out firepots
- Protects good castings
- Saves fuel for the owner
- Saves metal for war production

Remember that in Fireline you have a product which will live up to every claim you make for it. Thousands of installations prove that a Fireline lining will seal all cracks and holes in burned-out firepots, providing a durable refractory lining which increases the fuel bed temperature and gives the customer more heat from less fuel.

Remember, also, that you can put a furnace in shape with Fireline in a fraction of the time required to dismantle a furnace and replace the firepot castings. So you can quote a moderate price that gets the order and still make just as much money when you do it the Fireline way.

Write for bulletins, prices, and name of nearest jobber.

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New Products

For your convenience in obtaining information regarding these items, use coupon on page 62.

• 36—Vise Grip Wrench

Reiner & Campbell Co., Inc., 667 Norwood Terrace, Elizabeth, N. J., offers the Vise Grip wrench with strong alloy steel jaws that will lock



to the work with a grip that will not slip, and remain locked with the hands removed. It is vise, clamp, pliers, open-end wrench, locking-wrench, and pipe wrench—all in one—in 7- and 10-inch sizes.

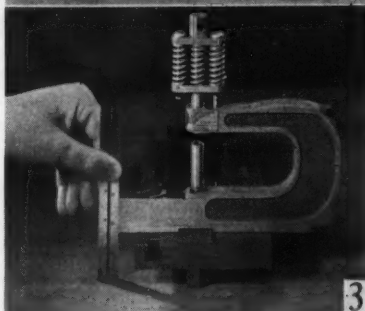
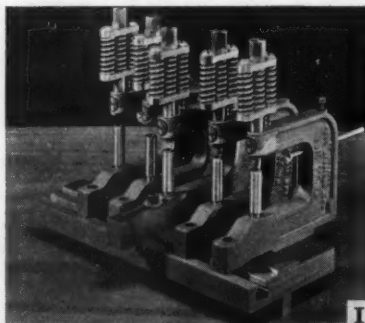
It can be used for heavy forming, bending, crimping, or to hold a nut that is being tapped.

△ 37—Hole Punching Units

Wales-Strippit Corporation, 345 Payne Ave., North Tonawanda, N. Y., announces a new Wales Types "CA" hole punching unit model with built-in adjustable adapter, available in a complete line to punch holes up to 5/16 in. diameter.

This adjustable adapter provides an adjustment up to 1½-inch front to back for "off-center" or staggered hole patterns when used in set-ups on press brakes. With this new adapter,

Type "CA" hole punching units have practically universal adjustment from left to right and front to back. The

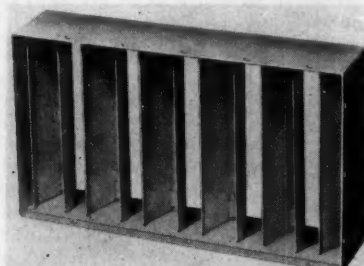


same group of units can be reset or removed to provide unlimited center-

to-center distances. There is nothing attached to the ram of the press. The punch and die are held in perfect alignment by the holder. The punches and dies are instantly removable for quick interchangeability.

38—Volocitrol

The Barber-Colman Company, Rockford, Ill., has designed the Volocitrol to noiselessly provide positive and adjustable control of air volume,



pressure, and distribution across a supply outlet. It supplants splitters, volume dampers, and similar devices in balancing of air distribution systems.

The frame of the Volocitrol is of 16 gauge steel 2½ inches wide. The pivoted louvers are of 24 gauge steel. Friction pins on each louver allow it to be set by hand. Positions are maintained when once set. A fire-proofed felt edging strip to fit between the frame of the Volocitrol and the duct is furnished.

Bulletin F-1916 is available.

Modification Center
CONTINENTAL AIR LINES
MUNICIPAL AIR TERMINAL
Denver, Colorado

April 10, 1943

Wysong and Miles Company
Greensboro, North Carolina

Gentlemen:

Thank you for your letter of April eighth relative to the two sets of Government Bills of Lading covering the two shears which you have shipped to our location, on purchase order M-1698.

Both of your shears have been received and are now in operation at this Center. We are very pleased with them as they are quality merchandise and are doing a very good job in our Sheet Metal Department.

Thanking you for your efforts in helping us to receive the badly needed shears, we are,

Yours to KEEP 'EM FLYING

MODIFICATION CENTER
Continental Air Lines, Inc.

V. M. Flanders
Mr. V. M. Flanders,
Assistant Purchasing Agent

What more can we Say?

quality merchandise

No. 462
Squaring
Shear

WYSONG and MILES Co.
Greensboro, N. C.

DESIGNERS AND BUILDERS

CRUISE TOOLS FOR OVER 40 YEARS

Keep Your
Production in Gear
for Victory

New Literature

For your convenience in obtaining copies of new Literature use the coupon on page 62.

248—The Modern Sheet Metal

Cheney Metal Products Co., Trenton, N. J., is distributing a 4-page folder on Cheney Metal—weather proof, fire retardant, deadens sound, takes ordinary paint, resists smoke fumes and salt air, forms, takes Pittsburgh lock and die formations. Cheney Metal is available in sheets, crimped roofing, corrugated roofing and siding, ridge roll, weatherboard, conductor pipe, gutters and elbows, and flashing. Specifications are included.

249—Pneumatic Die Cushioning Manual

Dayton Rogers Manufacturing Company, 2835 Twelfth Avenue South, Minneapolis, offers a 16-page service manual in connection with installation instructions for Pneumatic Die Cushioning Equipment, of interest regardless of the make of die cushioning equipment since the same principles apply. Another eight pages contains diagrams and text describing blanking and drawing jobs, piecing and trimming, with pictures of the finished products.

250—Pressure Losses

Engineering Experiment Station, University of Illinois, Urbana, offers Bulletin No. 342 entitled "Pressure Losses in Registers and Stackheads in Forced Warm Air Heating" by Professors Kratz and Konzo—price 65 cents. Bulletin No. 342 tells how best to bring high velocity air into a room in a forced air heating system, covers friction losses, shock losses resulting from contraction, expansion and deflection of the air. There are 12 tables and 26 figures.

251—Handbook for the Welding and Cutting Operator

The International Acetylene Association, 30 East 42nd Street, New York, N. Y., has prepared a convenient, 20-page, pocket-size booklet entitled "Handbook for the Welding and Cutting Operator," as a helpful step in instructing users of the oxy-acetylene welding and cutting process how to prolong the life of their equipment.

Written in an easy-to-understand style, it contains a list of concise do's and don't's for the man who wields the blowpipe and other helpful information and suggestions on the care and maintenance of blowpipes, regulators, and welding and cutting accessories.

This handbook may be obtained in reasonable quantities without charge from any manufacturer of oxygen, acetylene, carbide, or welding and cutting apparatus and supplies.

252—Big Four Fluxes

Superior Flux Company, 913 Public Square Building, Cleveland, is distributing a mailing piece describing their four welding and brazing fluxes:

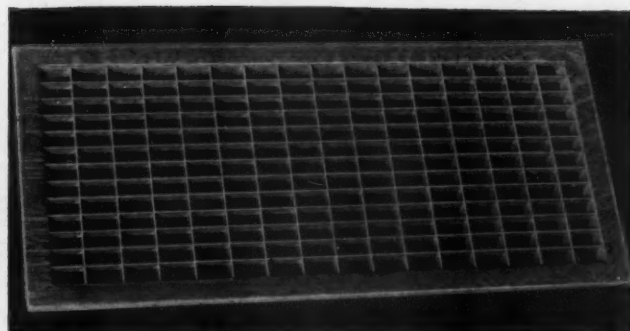
Superior No. 6 is a new silver solder paste flux, containing no free hydrofluoric acid.

Superior No. 7 is a flux designed especially for the torch welding of stainless steel and similar chrome, nickel steel alloys. It has unusual penetrating qualities and a very low melting point.

Superior No. 8 is an Inconel torch welding flux produced primarily for the torch welding of aeroplane mufflers and exhaust manifolds made of Inconel metal. It has splendid wetting and penetrating qualities and successfully scavenges the oxides created during the welding procedure.

Superior No. 9 is a new aluminum torch welding flux for the welding of both sheet and cast aluminum and its alloys; also magnesium. The flux makes welds with deep penetration and completely free from aluminum oxides. It has splendid wetting qualities and is extremely rapid in operation.

All four fluxes meet U. S. Navy and Army Air Corps specifications.



Tops for Maintenance and Repair!

The H&C No. 265 "NO-FLEX" Return Air Face is tops in appearance, tops in construction, a definitely superior product which costs you nothing extra. Buy the Best, it ALWAYS pays.

FOR WAR HOUSING PROJECTS

W.P.B. Order No. M-126 prohibits the manufacture of metal Return Air Faces for Housing projects. This means that only the metal faces now on hand may be used for war housing. We have the following large quantities of metal faces available for immediate shipment:

Class	Size	Oak	Unfinished*
265	10 x 26	470	800
	12 x 26	500	900
	13 x 30	350	150
	14 x 24	125	500
255	14 x 30	400	700
	18 x 30	300	200
	20 x 30	200	150

*Can be finished Black or Oak.

Also limited quantities of other sizes of No. 265 Faces.

Current Catalog on Complete Line of Gravity and Air Conditioning Registers and Accessories is No. 42.



HART & COOLEY MANUFACTURING CO.

**World's Largest Manufacturers of
Registers, Grilles, Furnace Accessories
HOLLAND • MICHIGAN**

New Literature

For your convenience in obtaining copies of new Literature use the coupon on this page.

253—The Bon White Process for Cold Tinning

Alrose Chemical Company, Providence, Rhode Island, is distributing a folder describing Bon White—a fast, inexpensive process for tinning parts for soldering or identification and for all other parts requiring light tinning.

254—Ways of Dealing with Absenteeism

War Production Drive Headquarters, War Production Board, Washington, D. C., has prepared a pamphlet on "Ways of Dealing with Absenteeism" for the guidance of its Labor-Management Plant Committees. The pamphlet deals with methods effectively used in combating the in-plant causes of absenteeism, and suggests methods for developing community co-operation in handling other situations which contribute to lost time on war jobs.

256—Metal Working Equipment

The Barth Manufacturing Co., Plantsville, Conn., is distributing a 28-page spirally bound catalog of metal working equipment—foot squaring shear; slip roll forming machines; adjustable bar folder; heavy duty slitting and rod shears; combination rotary machine; beading machine; combination bench machines for turning, edging, wiring, burring; crimping and beading machine; grooving machine; brace and wire bender; bench standard; bench plates; stakes; rivet sets and headers.

257—Plastic Housed Thor Portable

Independent Pneumatic Tool Co., 600 West Jackson Blvd., Chicago, is distributing Bulletin No. 803—a 4-page

catalog data sheet—with illustrations, diagrams and specifications of their ¼-in. capacity Thor electric drill "armored in plastic" and built for heavy production service. The internal operating parts of the Thor "Plastic" drill are supported within a sturdy, metal skeleton frame. The plastic housing does not support any of the operating parts of the tool, but serves as a protective armor.

258—Comparative Index of Welding Electrodes

Air Reduction Company, 60 E. 42nd Street, New York City, offers free copies of "Comparative Index of Welding Electrodes"—a 4-page folder. The chart details the principal AWS and ASTM electrode classifications and indicates which electrodes produced by 20 leading manufacturers meet the different requirements.

The buyer can use this chart to determine what brands of electrodes fall within a specified AWS and ASTM category, as well as to learn what alternate brands might be used successfully, should a specified electrode not be available.

FOR YOUR CONVENIENCE

American Artisan, 6 N. Michigan Ave.
Chicago, Ill.

Please ask the manufacturer to send me more information about the equipment mentioned under the following reference numbers in "New Products" and "New Literature." (Circle numbers in which you are interested):

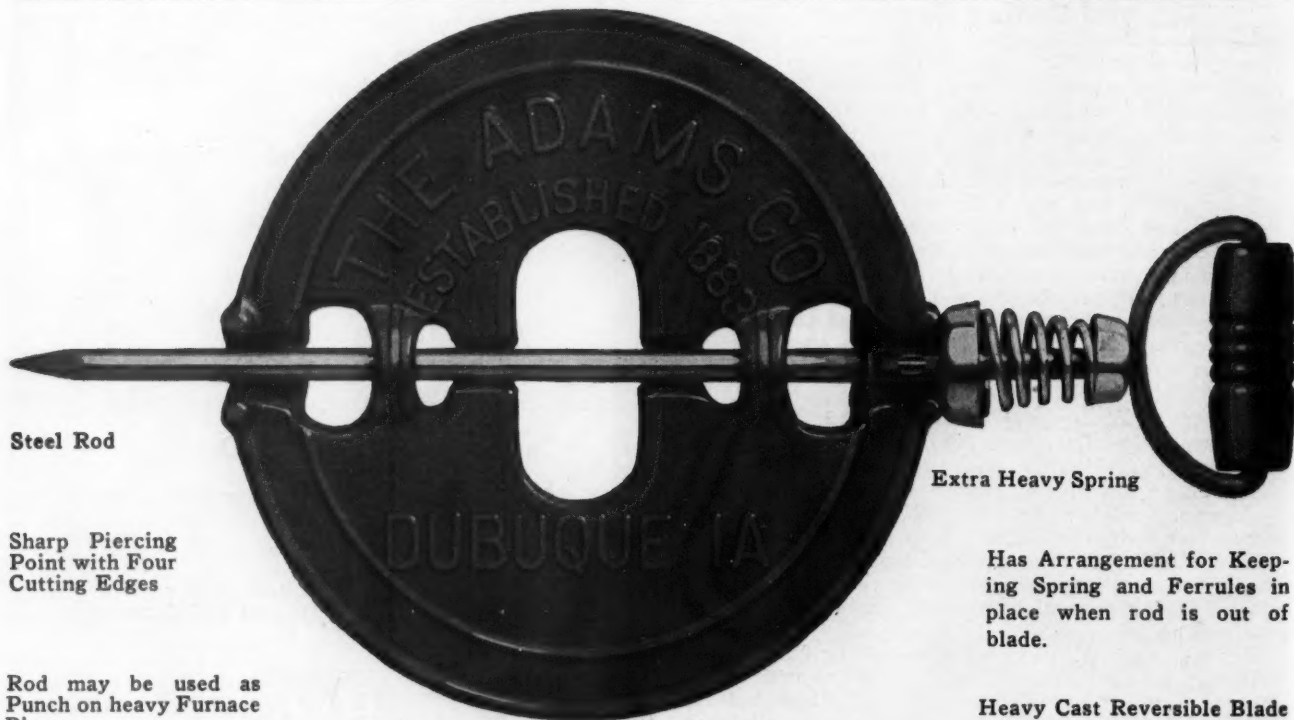
31	32	33	34	35	36	37
38						
248	249	250	251	252	253	254
255	256	257	258			

Name

Company

Address

Are you Manufacturer—Jobber—Dealer—



Steel Rod

Sharp Piercing Point with Four Cutting Edges

Rod may be used as Punch on heavy Furnace Pipe

Extra Heavy Spring

Has Arrangement for Keeping Spring and Ferrules in place when rod is out of blade.

Heavy Cast Reversible Blade

1883 — Sixty Years of Service — 1943

ADAMS **DIAMOND SMOKE PIPE DAMPER**
MANUFACTURED BY
THE ADAMS COMPANY
DUBUQUE, IOWA, U. S. A.

With the Manufacturers . . .

Independent Register Officers

Bruce Richardson has been elected president of the Independent Register Company of Cleveland, succeeding E. C. Fox, now Chairman of the Board of Directors. Other officers are:

Vice President Dex Sweet
Secretary A. H. Ullman
Treasurer Miss Margaret Fox

Rain-Carrying Equipment Available

Klauer Manufacturing Co., Dubuque, Iowa, has available under Amendment 5 of WPB Conservation Order M-126, a complete stock of rain carrying equipment—eaves trough, conductor pipe and fittings—for necessary repair and maintenance work without unnecessary delay, through Klauer jobbers and the United States Steel Supply Co., 1319 Wabansia Ave., Chicago. Jobbers will supply forms and information to comply with the amendment to the WPB order.

Dwight W. Edwards President of Ideal

Ideal Furnace Company, Detroit, is now headed by Dwight H. Edwards, son of the founder, Byron H. Edwards. The senior Edwards founded the company in 1898 and consolidated with it the Rococo Boiler Co. of Chicago, the Peerless Heater Co., The American Sadiron Co., and the Detroit Register Company, and later the Radiant Boiler Company.

Other officers are:

Vice President Howard Lofft
General Sales Manager M. E. Ledlie
Superintendent and Prod. Eng. Everett D. Betts
Secretary Jesse Button

The company will continue the manufacture of furnaces, boilers, and hot water supply heaters.

Olsen Acquires Moncrief

On May 27, C. A. Olsen and his Associates took over the operation of the Moncrief Furnace plant at Medina, Ohio,

The C. A. Olsen Manufacturing Company acquired title to the complete manufacturing plant of The Henry Furnace and Foundry Company, with its 180,000 square feet of space, on a plat of ten acres. All the Medina real estate, buildings, machinery and equipment, patterns, dies, tools, inventory, supplies, trade marks and trade names were purchased outright. Any assets of The Henry Furnace and Foundry Company situated outside of Medina, Ohio, were not included in this transaction.

Shipments are being made on the same schedule in effect in recent weeks. Plans for an early increase in production already have been formulated, as there is no WPB limitation this year on the number of furnaces which Moncrief can produce.

H. F. Bradway, for many years in charge of manufacturing under the former ownership, will continue in the same capacity in the new company.

General offices of the new company, The Henry Furnace Co., will be located at the Medina manufacturing plant.

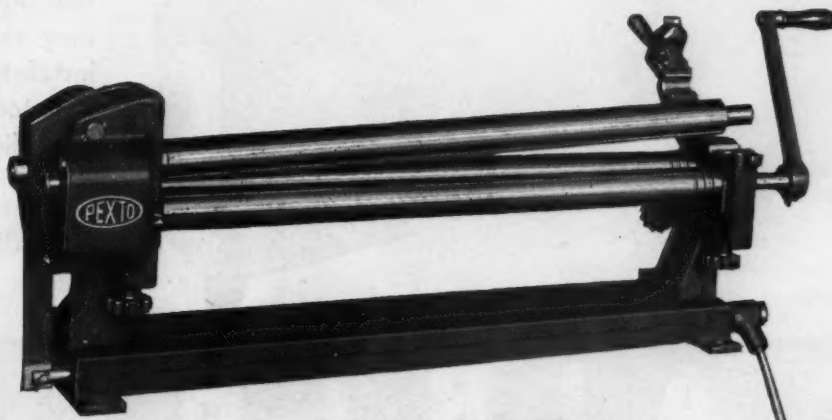
Warm air furnace manufacturers for more than 40 years, Henry Furnace and Foundry Company and its successor are producers under the trade name Moncrief of gravity warm air furnace and air conditioning units for all fuels coal (hand or stoker-fired), gas and oil. Furnace pipe, elbows, ducts and fittings are also products of Moncrief.

Mr. Olsen, who is president of The C. A. Olsen Manufacturing Company of Elyria, Ohio, manufacturers of steel furnaces and air conditioners, for many years was president of The Fox Furnace Company, Elyria, Ohio, a subsidiary of American Radiator & Standard Sanitary Corporation. Mr. Olsen's industry activities include two terms as President of the National Warm Air Heating and Air Conditioning Association.



ANTICIPATING THE INDUSTRY'S NEEDS for SHEET-METAL WORKING EQUIPMENT

The SHEET-METAL WORKING industry has become mechanized largely through the adoption of machinery and tools developed by PEXTO. PEXTO has met demands for increased production and better work by constant improvements, introducing tools and methods that have contributed to the industry's steady growth through more than a century and a half.



SLIP ROLL FORMERS

THE PECK, STOW & WILCOX COMPANY Since 1785 SOUTHINGTON, CONNECTICUT, U. S. A.

With the Manufacturers . . .

Ralph S. McNaney, president of Dowagiac Steel Furnace Company, Dowagiac, Michigan, died recently.

Fred S. Denison, engineering executive of the Minneapolis-Honeywell Regulator Company and winner of the National Association of Manufacturers' Pioneer award in 1940, is dead in Minneapolis. He was 56 years old.

Denison had been with Minneapolis-Honeywell since 1908.

Edward H. Erk, for 28 years a salesman for F. O. Schoedinger, died April 29th at Miami, Fla. Mr. Erk, for 42 years a resident of Columbus, retired from business five years ago. In all Mr. Erk was on the road about 50 years, the first 21 years for Van Camp Hardware & Iron Co. of Indianapolis. His son Oscar will carry on.

John J. Holub, formerly factory superintendent of The Excelsior Steel Furnace Co., 114 S. Clinton St., Chicago, passed away June 2 at his home in Cicero, Illinois.

Mr. Holleb joined Excelsior on June 24, 1892. He became factory superintendent on February 28, 1928, and continued in that position until he retired on January 5, 1942.

Dayton Hessler, president and founder of the Dayton-Hessler Co., Syracuse, New York, passed away recently. Mrs. Dayton Hessler will continue the business under the same firm name and there will be no changes in the personnel.

The company jobs, manufactures and distributes tin shop and contractors' supplies, and furnaces.

Joseph Weller Hays, the first man to be known as a "combustion engineer" and founder of what is now The Hays Corporation, Michigan City, Indiana, died at the family home in Grinnell, Iowa, April 22, 1943, at the age of 75.

Mr. Hays took an absorbing interest in smoke abatement and combustion efficiency, and produced fuel savers and waste detectors in many forms. Among the first was an improved portable flue gas analyzer or orsat. Later came a CO₂ recorder for which Mr. Hays and his brother, Charles, were awarded a Certificate of Merit by the Franklin Institute of Philadelphia. The Hays Corporation ranks among the leaders in the manufacture of combustion instruments and control.

His remains were interred in the family plot in Hazelwood Cemetery, Grinnell. He is survived by two daughters and one son, Dan F. Hays, an electronic engineer of Independence, Iowa.

John J. Jensen, founder of the Whitney Metal Tool Co., 97 Forbes Street, Rockford, Illinois, and president at the time of his death, passed away on Friday, April 16. Mr. Jensen had been in good health but entered the hospital for an operation, from which he seemed to be recovering quite rapidly. However, early in the morning of April 16 he took a turn for the worse and passed away very shortly thereafter. The immediate cause of his death was diagnosed by the physician as embolism.

The Whitney Metal Tool Co. was under Mr. Jensen's management since its first exhibit at the convention of the National Association of Sheet Metal Contractors in Indianapolis in 1922. At that exhibit he had on display the initial tool of what is now the rather extensive Whitney line—one of the small punches. From this small beginning under Mr. Jensen's management, the company has expanded year by year until at the present time it has become a most important factor in the production of sheet metal working machinery and tools.

He is survived by his widow and two brothers, Gus and Walter Jensen.



We also manufacture all types of Steam Unit Heaters.

DIRECTTHERM UNIT HEATERS

squeeze the most out of coal, gas or oil. They utilize 80% of the fuel energy and distribute the heat evenly as far away as 200 feet.

Directtherm Heaters solve many important war problems. They save metal, they save manpower, they save fuel. Installation is easy, no ducts, pipe, or radiators are needed. Automatic controls eliminate maintenance.

For coal, gas and oil. Made in 6 sizes (300,000-1,700,000 B.t.u.).

A I R T H E R M

MANUFACTURING COMPANY

706 S. SPRING AVE.

ST. LOUIS, MO.

With the Manufacturers . . .

A. R. Harris, Hammond, Indiana, has been seriously ill in St. Margaret's Hospital, Hammond.

Manny Gets WPB Appointment

J. Harvey Manny, president of the Robinson Furnace Company, Chicago, has been appointed to the Plumbing and Heating Division, WPB.

Slocum Represents General Controls



Claude S. Slocum has been recently appointed factory representative for General Controls Co., Glendale, Calif., manufacturers of pressure, temperature and flow controls. He will serve the Rocky Mountain territory as well as Kansas City, Missouri. He will also work through the panhandle section of Texas and northern New Mexico. His new headquarters will be located at 2135 South Adams Street, Denver, Colorado.

Gerett Triples Floor Space

The M. A. Gerett Corporation, Milwaukee, has purchased a large new factory building located at 722-724 West Winnebago Street, Milwaukee, Wisconsin.

The new factory provides three times the former floor space occupied. A brick building, centrally located, with all modern facilities for manufacture and transportation, the new home will offer better facilities for production, research and office requirements, as well as space for new products now under consideration.

The M. A. Gerett Corporation moved into their new factory on April 19th, and are already in full production.

Indoor Climate Institute

(Continued from page 28)

known practice and advise people interested as to necessary changes.

Local I. C. I. Meetings

Meetings will be held in all principal cities to acquaint the local trade and building interests with the I. C. I. program. These meetings will be conducted by field specialists employed by the national organization and will serve to raise the standards of the entire heating industry.

I. C. I. Educational Work

To interest a higher type of personnel in heating work in the post war era, the I. C. I. will cooperate with the national associations in the issuance of manuals and training courses used in the industry. The Educational Director of I. C. I. will also seek to establish training courses at colleges, universities, night schools, Y. M. C. A. schools, and with other educational institutions.

I. C. I. Publicity

The national I. C. I. office will issue publicity that can be used in national magazines, newspapers, and by the business press. Local organizations will also serve as centers for issuing publicity that will be of interest to the local press.

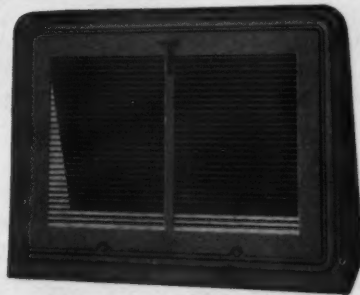
BUY WAR BONDS

U.S. for PRESENT and POST-VICTORY PLANNING

U. S. Registers — in the advanced post-war models — are ready for you! You can buy now from the largest inventory in the industry. To speed delivery, substitutions may be suggested in certain styles, but even though government restrictions have made some changes necessary, we are still delivering the goods. Count on U. S. — NOW for current use — TOMORROW for the after-victory building boom. Send your orders and inquiries for prompt handling.

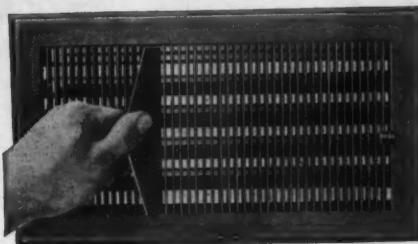
UNITED STATES REGISTER CO.
BATTLE CREEK, MICHIGAN
MINNEAPOLIS • KANSAS CITY • ALBANY

No. 40 SERIES
GRAVITY BASEBOARD REGISTERS



Today's finest! Least resistance — complete non-vision of Register Interior with Removable Grille and Patented Grille Locking feature. Leakproof when properly installed.

No. 256 4-WAY FLOW
AIR CONDITIONING REGISTER



Complete, versatile control . . . beautiful exterior! Vertical Grille Bars adjustable to desired lateral airflow with bending Wrench. Lever-operated Horizontal Rear Valves for Upward or Downward Deflection.

N. W. A. H. & A. C. Ass'n

History

(Continued from page 30)

vestigation. Should important changes in or additions to the present testing plant become necessary it is agreed that the cost thereof shall be charged against the fund provided by the National Warm Air Heating and Ventilating Association for the general investigation as hereinafter provided.

'III. An advisory committee of the National Warm Air Heating and Ventilating Association shall be appointed to consult with the officers of the Engineering Experiment Station concerning the conduct of the investigation and the general testing program to be undertaken. When a general program of tests has been agreed upon, the conduct of the tests shall be entirely made under the control of the Engineering Experiment Station, which is necessarily responsible for the results secured.

'IV. All of the original test data and the computations and results of the investigation are to be the property of the Engineering Experiment Station and they are to be kept on file at the University of Illinois. Furthermore it is understood and agreed that the Engineering Experiment Station shall have the exclusive right to publish the results of the tests and investigations conducted under the agreement, and no publicity as to any of the tests shall be given prior to the publication of the results by the

Engineering Experiment Station.

'V. The advisory committee or other authorized representative of the National Warm Air Heating and Ventilating Association shall at all times have access to the data secured and the computed results and one copy thereof shall be furnished the secretary of the National Warm Air Heating and Ventilating Association subject, however, to the conditions named in Article IV. The Engineering Experiment Station will submit a semi-annual report on the work in progress, in addition to the data and results to the National Warm Air Heating and Ventilating Association.

'VI. Not less than two full time testing assistants and one half-time assistant will be needed to conduct the investigation herein contemplated. The salaries of these assistants and of any other assistants later found necessary are to be paid from the funds provided by the National Warm Air Heating and Ventilating Association. These assistants are to be considered members of the staff of the Engineering Experiment Station during their connection therewith.

'VII. All furnaces tested are to be finished and erected at the testing plant without expense to the Engineering Experiment Station. All expenses connected with the preparation of the furnaces for testing and any other expense connected with these tests, not otherwise provided for shall be paid from the funds furnished by the National Warm Air Heating and Ventilating Association.

'VIII. On or before October 1, 1918, the Na-

Target

FOR TONIGHT

Tonight's target is *any spot in the world* where the American Command chooses to concentrate air power—thanks to miracles of organization and production. ★ Every member of the PAYNE organization is proud and grateful to have a small, yet vital part in supplying the weapons of Democracy. ★ PAYNE'S expanded facilities are now dedicated to this one end. But after the war, we shall be even better equipped to resume our nearly 30 years' leadership in the peaceful science of heating.

PAYNEHEAT

Payne FURNACE & SUPPLY CO., INC., BEVERLY HILLS, CALIFORNIA



TARGET FOR TOMORROW

"Right on the target" of America's post-war expectations is the planning now taking place in PAYNE laboratories and drafting rooms. In the future, as always, PAYNE dealers will offer years-ahead design and performance.

tional Warm Air Heating and Ventilating Association shall pay to the Board of Trustees of the University of Illinois an initial sum of two thousand dollars (\$2,000.00) and thereafter it shall maintain in this special fund for furnace testing a balance of not less than five hundred dollars (\$500.00) to be administered by the Comptroller of the University and paid out by him on vouchers approved by the proper officers of the Engineering Experiment Station. It is further agreed that the total amount of the fund expended by the National Warm Air Heating and Ventilating Association shall not exceed eight thousand dollars (\$8,000.00) for the first year of this arrangement. At the termination of this agreement or at any time on the request of the Association the Comptroller shall render an account to the National Warm Air Heating and Ventilating Association and he shall return to the Association any unexpended balance which may remain in this fund at the termination of this agreement.'"

Oil Burner Service Procedure

(Continued from page 37)

to one of your jobs and find fittings, nuts, bolts, etc., in good condition rather than all chewed up and bent by sloppy fitting tools. In the end you are money ahead by time saved.

There is a lot of patriotism locked up in a can of boiler cement. By sealing air leaks around doors, smoke hood, stack, clean-outs or a hundred other places on the unit, the percentage of excess air is cut down with resultant increased efficiency and fuel saving.

Do not neglect to lubricate motors and blower regularly but, by the same token, too much is as bad as not enough.

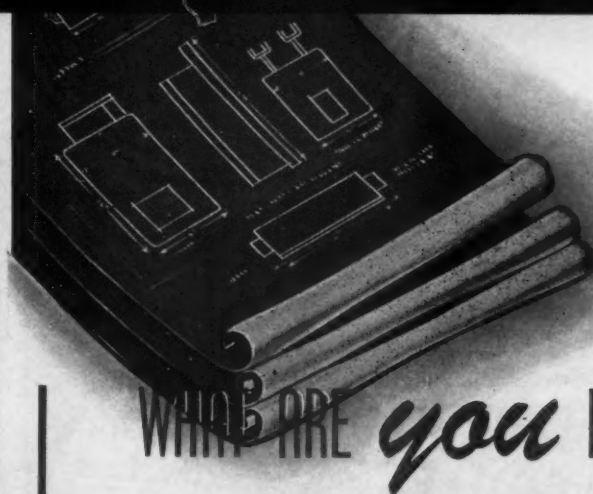
After your call is completed, be sure to clean up whatever mess you have made as, regardless of how much work you do on the burner, all you get credit for is that which can be seen. A little care and neatness on any job or installation is your best insurance of being called back the next time there is trouble. Before leaving the job, quickly check everything that you have done, such as all controls working, leave no oil leaks, and pick up all your tools. (And no more.) You can get into more trouble by unintentionally walking off with a 15 cent screw-driver than if you intentionally walked off with the whole heating plant.

Part 2 — Checking Electrical
Apparatus Will Appear in July

Podolske Milwaukee Changes Name

Arthur R. Podolske Sheet Metal Works, announces that hereafter the firm will be known as the Milwaukee Metal Products Company, at new and larger quarters—1737 N. Palmer Street, Milwaukee. Phone: Locust 8058. Arthur R. Podolske is president. There will be no change in the personnel.

AMERICAN ARTISAN, JUNE, 1943



WHAT ARE YOU DOING ABOUT POST-WAR PLANNING?

Practical, well-laid post-war plans are the immediate need of all industry. Many important new developments, applied through intelligent planning, will bring new efficiency and comfort to a world at peace.

If dependable temperature or pressure control is a factor in the successful application of your product or service, it will pay you to investigate the White-Rodgers Hydraulic Action principle and other new developments in temperature and pressure control.

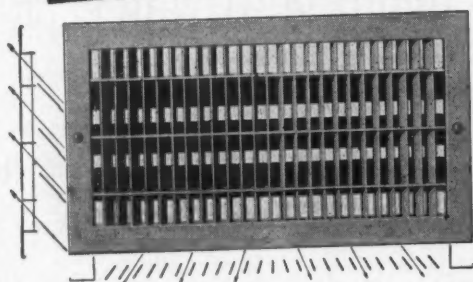
Because of the importance of post-war plans to American industry, we have prepared a "Post-War Planning Checklist" which may be of assistance in setting up your own post-war program. We shall be glad to send you a copy upon request.



WHITE-RODGERS ELECTRIC CO.
1215F CASS AVE. ST. LOUIS, MISSOURI

INDEPENDENT "Fabrikated"

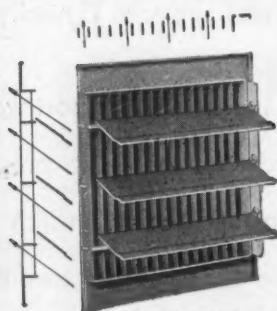
**DIRECTED AIR FLOW
GRILLES with Deflecting Vanes**



No. 321A

**Gives Compound Direction
to Air Flows with Certainty**

Each grille bar can be adjusted individually to direct air flow to the right, left or fanwise as illustrated. Adjustment can be made either before or after installing. Grille bars remain firmly in position without locking, and will not vibrate nor rattle.



REAR VIEW

Horizontal deflecting vanes in back may be individually adjusted to give upward or downward deflection to air flow.

EVERY
GRILLE BAR IS
INDIVIDUALLY
ADJUSTED



Send for Catalog No. 41-AC

641

**THE INDEPENDENT
REGISTER CO.**

3747 E. 93rd STREET • CLEVELAND, OHIO

War Housing Construction Standards

(Continued from page 35)

A *bedroom* is a separate room designed for sleeping with minimum floor area, exclusive of storage space, for a

One bedroom unit—100 square feet.

Two bedroom unit—first bedroom, 100 square feet; second bedroom, 70 square feet.

Three bedroom unit—first and second bedrooms, 100 square feet, and third bedroom, 70 square feet.

Where more than three bedrooms are provided, the maximum allowance in square feet shall not exceed that allowed for a three bedroom unit.

(ii) Number of Stories

A one-story *structure* is one in which all the rooms used for living, dining, cooking, bathing and sleeping are located on the same principal floor level.

A structure "having more than one story" is one which provides such rooms on two or more overlapping floor levels.

"A structure which provides in an attic usable floor area not in excess of 50% of the area of the main floor, provided that the combined area does not exceed that permitted for one-story structure, may be considered a one-story structure.

"The usable floor area of an attic is that portion having 5.9 inches or more of clear head room."

(iii) Floor Area: Method of Measurement

Floor area means the total area in square feet measured at each principal floor level to the outside face of exterior walls and to the center line of common walls. Walls or partitions enclosing finished space in attics or basements shall be considered as exterior walls. The exterior side wall of an end row dwelling shall be considered as a common wall. In the case of dwelling units having exterior walls which are thicker than required for frame houses, the floor area permitted for family dwelling units may be increased to the extent that the area of the thicker wall exceeds that of a wood frame wall finished with wood siding.

Floor area includes:

(a) *Single-family dwellings:* All space used for living, sleeping, dining, cooking and bathing, and all finished closets, halls, utility rooms, vestibules and stair wells.

(b) *Multi-family dwellings:* Same as for single-family dwellings but including all common halls, vestibules and stairwells.

(c) *Areas of accessory buildings, other than garages:* Such as management, operating, community, or service facilities which are absolutely essential to the operation of the project, provided that the function of such accessory buildings cannot be incorporated within the dwelling structures.

Floor area shall not include:

(a) *Porches:* Floor area of open porches, whether roofed or not.

(b) *Garages:* The floor area of a garage located in a basement. The construction of garages (other than in a basement) or of car ports, is not permitted under these Standards.

(iv) Maximum Floor Area

(a) The floor area of a single-family dwelling shall

not exceed the applicable maximum allowance in square feet.

(b) The total floor area of a multi-family dwelling structure shall not exceed the sum of the applicable maximum allowance in square feet for the dwelling units contained in the structure.

(c) The floor area of accessory buildings which are absolutely essential to the operation of the project may be added to the area permitted for the dwelling accommodations.

General

A. These Standards are applicable, insofar as practicable, to all conversion, rehabilitation, and remodeling war housing projects.

B. Projects processed under the War Housing Construction Standards dated October 28, 1942, may be built under the applicable provisions of these Standards.

Register and Grille Situation

(Continued from page 29)

with which to fill the exact size of opening originally planned for.

We firmly believe if these problems are brought to the attention of the heating engineer, air conditioning and gravity heating installer, or heating contractor on housing projects, they will be more than willing to agree to such substitutions of merchandise.

How to Help Your Supplier

To summarize, specify the size and base extension of the baseboard register required, and the style, and

then give your source of supply the privilege of substituting whatever other style is available, if the style specified cannot be furnished. In the same manner, specify floor registers by the size and the finish required, and leave it up to the supplier to ship the style of floor register that is available in stock. On cold air faces follow the same procedure of ordering the size required, but go a step farther and give the supplier the privilege of shipping the nearest to the size specified that is available within a range of ten per cent over or under size, preferably oversize on a free area basis, and in whatever finish can be furnished if the finish ordered is not available.

In ordering air conditioning registers, give the producer or the jobber the privilege of shipping the style of air conditioning baseboard register required, and if not that style, give him the privilege of shipping any other style that he has available. Order sidewall air conditioning registers in the same manner with the same leeway. Order baseboard return vents with the privilege of shipping whatever other design of baseboard vent is available as long as the size is maintained, or as near the size as possible. Order sidewall or flat vents in the same manner.

This procedure will save an unbelievable amount of manhour time waiting for material to arrive, and waiting for material to be produced which may be quickly obtained by accepting other styles and other sizes as substitutes.

We have our boys on the fighting fronts and our citizens on the production front. We badly need housing; by not being too particular about getting just exactly what we want, the sooner will we get this job done and the sooner will we be back to normalcy.

MORE PRODUCTION PER MAN HOUR

These smaller size Niagara Inclinable Presses offer the same design features of larger Niagara Models. The instant acting 14-point sleeve clutch is an important factor in increasing the output per man hour. It is possible that one or more of these presses can help you in speeding up production of urgently needed wartime material.



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DETROIT • CLEVELAND • NEW YORK

BUY UNITED STATES WAR BONDS AND STAMPS

BURT MONOVENT

Continuous Ridge

VENTILATOR



**Particularly
Fitted for
War
Production
Plants**

The ease of installing, high efficiency, and trouble-free operation of Monovent particularly adapt it to shops, mills, warehouses, public and commercial buildings. Efficiency equals that of gravity ventilators, costs less. Looks better, too. Installed on apex or ridge of roof, it blends with the lines of the building. Takes fullest advantage of wind action. Easy to install on any type of roof.

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ROOF VENTILATORS • OIL FILTERS
EXHAUST HEADS
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Burt Engineers
are glad to
help on plans

Eliminates Wall Streaks!

— STREEKNO —



The installation of STREEKNO Packing in gravity and air conditioning registers prevents those streaked, blackened walls caused by air seepage around the register box. Inexpensive to the home owner, easy to install, this is an item you should be making sales on now!

Selling STREEKNO is a twelve months a year proposition.

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Contractors Supply Co., Lansing, Mich.
Huron Pipe & Supply Co., Port Huron, Mich.
Kleenaire Corp., Madison, Wis.
Metal Service Co., Green Bay, Wis.
Milwaukee Stove & Furnace Repair Co., Milwaukee, Wis.
Morley-Murphy Co., Green Bay, Wis.
Mott Brothers Co., Rockford, Ill.
A. A. Nemecek Heating Supply Co., Indianapolis, Ind.
Northwestern Stove Repair Co., Chicago, Ill.
Omaha Stove Repair Works, Omaha, Neb.
J. M. & L. A. Osborn Co., Cleveland, Ohio.
Reggins Metal Products Co., Kankakee, Ill.
Republic Metals, Inc., Chicago, Ill.
Schwab Furnace & Mfg. Co., Milwaukee, Wis.
Tri-State Heating Supply Co., Fort Wayne, Ind.
Warm Air Heating Supply Co., Detroit, Mich.

Get details on STREEKNO from YOUR jobber.

EXCEL HEATING & AIR CONDITIONING CO.
3715-9 Belmont Avenue, Chicago, Ill.

On Our Industry's Front

(Continued from page 32)

essential goods and services, the Vice Chairman of Civilian Requirements is empowered and directed to:

1. Determine requirements for consumer goods and services, and act as claimant therefor;

2. Determine, within the limits of total allocations to the Office of Civilian Requirements by the Program Vice Chairman, the distribution of materials among different consumer goods and services; and certify, through the Operations Vice Chairman or other appropriate administrative channels, such distribution to the Industry Divisions for effectuation through orders, allocations, or other applicable means;

3. Determine the policies of the War Production Board for rationing consumer goods and services, when necessary, and recommend to the Chairman the issuance of directives to the Office of Price Administration covering the specific rationing programs for consumer goods and services;

4. Analyze and review proposed orders and the administration of existing orders so as to assure that such orders give full consideration to civilian needs, and recommend such changes as are considered necessary to provide adequate consumer goods and services;

5. Initiate the formulation of plans and programs for simplification and standardization of consumer goods and services for the purpose of attaining the objective stated in Section 4.01 above;

6. Plan, with the Division of Information and the Office of War Information, consumer information programs designed to give the public a full understanding of the programs and actions of the War Production Board to maintain the civilian economy at a level consistent with objectives;

7. Determine the impact of manpower shortages upon the supply of essential consumer services and distribution, and, when necessary, determine the relative essentiality of different consumer goods and services, and report such determinations to the War Manpower Commission;

8. Represent the Chairman of the War Production Board in contacts with the Office of Price Administration on matters relating to:

1. The effect of pricing upon the production and distribution of consumer goods and services.

2. The coordination of rationing with production and distribution policies concerning consumer goods and services.

3. The coordination of price regulations with standardization and simplification of consumer goods and services;

9. Establish effective relationships with appropriate Federal agencies concerned with civilian supply and requirements in order to assure coordinated action in achieving the objectives stated in this order;

10. Prepare for the Chairman quarterly reports on the production and availability of consumer goods and services under the jurisdiction of the War Production Board.

The order provides procedure for carrying out the functions just enumerated. In estimating requirements for consumer goods and services, the Office of Civilian Requirements will obtain from the industry divisions of WPB whatever information may be needed, and the industry divisions will then translate these requirements into estimates of controlled materials needed

for their production and submit them to the OCR for its approval and consolidation into total controlled material requirements for consumer goods and services.

OCR not only will estimate total requirements of controlled materials but will decide how this lump sum allocation of controlled materials shall be divided among the different consumer goods and services.

The order provides that items allocated for consumer goods and services may not be diverted to other channels without authorization from OCR, thus assuring civilians the total amount of such items if necessary.

The order provides for close cooperation between OCR and the Smaller War Plants Corporation in order that small business concerns will be utilized to the fullest degree practicable in the production and distribution of consumer goods and services.

N. W. A. H. & A. C. Ass'n Mid-Year Meeting

(Continued from page 55)

turer has access to such stocks, he is entitled to file a supplementary application asking that he be permitted to use these materials, but L-22-a still prohibits the production of steel manufacture, so the outcome of the appeal is doubtful. Finally, Mr. Johnston said there is always the possibility that steel furnace production will be resumed.

Mr. Johnston reported that Plumbing & Heating Division's survey to show the number of furnaces actually needed for 1943 now stands at 150,000 furnaces required. There is some doubt that the industry can actually produce 150,000 complete units because, for instance, casing material is very short. The suggestion has been made that the manufacturers produce cast iron furnaces and leave the problem of casings to the contractors who seem able to obtain galvanized iron and black iron in some localities from jobbers. Another suggestion has been offered that certain gray iron foundries faced with labor shortages and other problems might farm out to other foundries the use of their patterns to produce a given type of cast iron furnace. Finally, Mr. Johnston reported that housing needs for war workers seems to be holding up in 1943 and perhaps the need for housing will become so acute that National Housing Agency will bring pressure to bear on War Production Board to obtain enough material to manufacture the required number of furnaces for this new war housing program.

CMP Expectations

Floyd E. McCullough of the Chicago Office of War Production Board, Controlled Materials Plan Division, reported the general procedure of manufacturers under CMP. The complete purpose of CMP is to permit the production of about 6,000,000,000 dollars in war goods each month in 1943. Government believes that CMP is right in principle because it establishes the amount of all materials available and then allocates these materials to the various claiming agencies in proportion to the essentiality of the products to be manufactured. Mr. McCullough then explained in some detail regulations one to eight which we will not report because we assume readers are familiar with the regulations which apply to this industry. For instance CMP-4 covers the amount of material which warehouses may sell to contractors on priority rated orders and for no non-rated orders. CMP-5 establishes the procedure for obtaining materials for maintenance and repair.



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WATER HEATER**

When peace comes remember that Lochinvar's Multiple-Stage Burner effects greatest fuel economy . . . completely automatic operation is safely controlled by Underwriters Lab. Approved Controls . . . and their perfect, trouble-free performance and right price will gain you many sales!

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Available in widest range of sizes, from $\frac{1}{8}$ " to 6" I.P.S.

For operating pressures up to 5 pounds.

Unusually low in current consumption.

For all voltages and frequencies, A.C. or D.C.

Quiet, positive and trouble-free operation.

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General Controls' K-3B is a versatile magnetic gas valve. It has a wide acceptance for use in controlling gas to heat-treating ovens, boilers, furnaces, and similar industrial installations. Write for Catalog 52 for full description specifications.



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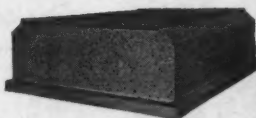
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Swartwout's Two highly efficient HEAT VALVE designs

Swartwout Multiple

USE this improved gravity type ventilator where enormous air movement capacity is needed. Regardless of volume of exhaust provided, Swartwout Multiple is only 32" high. Short air travel means *extremely low air friction*.



Used in continuous runs or single units. Made in steel or non-critical materials.

Swartwout-Dexter

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Any size opening from 4" upwards. Made in steel or non-critical materials.

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THE SWARTWOUT CO., 18637 Euclid Ave., Cleveland, Ohio

Swartwout VENTILATION SPECIALISTS

Work for Small Shops Situation

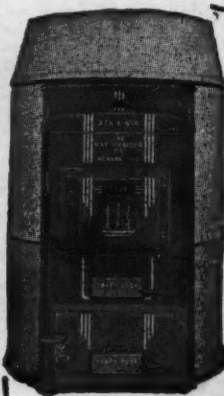
(Continued from page 25)

ever had before, if he will make it an insistent point to get acquainted with the District SWPC official, either directly or through his bank. They tell you these District officials know where the prime contract will be placed, and where the contracts may be had, and they repeatedly emphasize the SWPC official in the field has much more power than he has ever had before.

Gen. Johnson plans immediately to sell the idea of the place of the smaller business in the war picture by embarking upon a great publicity campaign to impress upon the nation the wisdom of preserving the independent smaller business economy, and he hopes to make his drive effective with those elements which are inert and indifferent by arousing a tremendous supporting and sympathetic public opinion.

OWI Finds Metal Industry Busy

OWI recently published a survey of small manufacturing concerns engaged in war business. With consistent OWI practice it has made difficult the wide availability of the report. We are told the survey revealed that 83 per cent of the metal manufacturers are engaged in war business, almost twice as many as any other production group. All firms surveyed were classified in three groups: those employing up to seven workers, those employing up to twenty workers, and those employing up to one hundred twenty-five. In the metals group 97% of those employing up



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For the duration when furnaces MUST be replaced, use an Ath-A-Nor. You can be certain that it is the utmost in quality, economy and efficiency . . . will perform perfectly and assure you of a satisfied customer . . . and remember, collect all scrap metal and see that it reaches our government as speedily as possible.

MANUFACTURERS OF QUALITY HEATING EQUIPMENT FOR OVER 50 YEARS

MAY-FIEBEGER COMPANY

NEWARK

OHIO

to 125 workers had war work; those employing up to 20 workers had 88% war work; those employing up to 7 workers were engaged in war work to the extent of 67%. Over all, small business firms had more war work in the Far West than in the rest of the country. The Southern smaller firms had 49%; the Northeastern firms, 55%; the states of the East North Central section had 68%; and the Pacific West, 69%.

The SWPC leaders have honestly grasped the nettle of fact that something must be done for the fabricators and contractors who cannot get into war work for various reasons. Gen. Johnson and his associates are convinced that the civilian economy is entitled to a break. Somewhere along the unfolding of the program it is very likely that an effort will be made to induce Army-Navy, WPB, and other agencies to relax the restrictions on the production of a number of civilian items. Obviously the easing of controls on the items will mean that a certain percentage of critical materials must be permitted to percolate to civilian plants.

Sheets Can Be Released

It is quite generally understood that light gauge metal sheets might be released for the civilian economy, in very moderate quantities, without interfering with war production. When public opinion actively and specifically gets behind the efforts of SWPC it is not unlikely that the petition for a tiny percentage of critical materials will be favorably entertained by Mr. Nelson's Review Committee. Odum once suggested 2%. This time, so far, figures have not even been mentioned.

But there has been much discussion about the

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War plants, army barracks and other vital war-time buildings need heating and ventilating, or exhaust and blow pipe installations. This high priority business can be your salvation. Specify Clarage Fans, Blowers, Unit Heaters! Nationally known and Nationally accepted, these highest quality air-handling products help you land the desirable jobs. Write today for descriptive literature.



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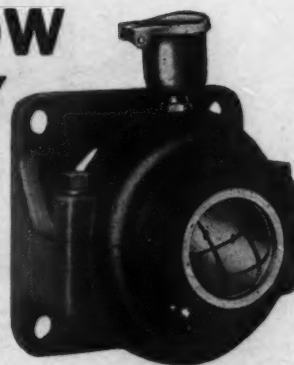


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for
INDUSTRIAL NEEDS

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APPLICATION ENGINEERING OFFICES IN ALL PRINCIPAL CITIES

TOMORROW IS ONE DAY NEARER VICTORY



Suddenly, some day, life will begin to resume a normal routine. People will again buy what they need and you and we again will be able to fill orders for these needs.

Then, you will want these dependable, quiet, self-lubricating, self-aligning bearings for civilian use. Then, we will be able to supply whatever your needs may be.

Now, on almost every type of war production equipment Randall Bearings are giving dependable, trouble-free service. Write for catalogs 42 and GB43.

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AIRCRAFT RIVET SQUEEZERS

Standard, Alligator, Crab, Snake Head, and Pelican types for speedy, accurate, uniform setting of aluminum rivets up to 5/32" size. Pelican type (shown) in 6 sizes from 1 3/4" to 6" throat-depth, other types in a total of 25 different sizes. RED-SET model has interchangeable and adjustable dies for several styles of rivets.



BLIND RIVET PULLER

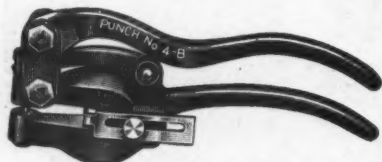
For setting various kinds of stem or mandrel-type blind rivets. Chuck pulls directly on center with full bearing around head of rivet. Handle can be removed if necessary for work in close quarters, also crank can be replaced by handwheel. Ball bearing construction and other features insure durability. For brazier or flush rivets in 1/8", 5/32", and 3/16" sizes.

Write for Whitney-JENSEN Aircraft Tools Catalog.

WHITNEY METAL TOOL COMPANY

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WHITNEY LEVER PUNCHES



**NUMBER
FOUR "B"
PUNCH**

This punch for sheet metal work has a capacity of $\frac{1}{4}$ " through 16 gauge. Weight 8 lb. Length 8 $\frac{1}{2}$ ". Depth of throat 2". Complete tool includes three punches and three dies of specified sizes with die adjusting key. A time-saver for your up-to-date shop.



**NUMBER TWO
PUNCH**

And here's another handy tool for the modern shop—the No. 2 Punch. Length 25". Capacity $\frac{5}{16}$ " through $\frac{1}{4}$ " iron, weight 12 lbs., depth of throat 1-11/16". Punches and dies $\frac{3}{32}$ " to $\frac{1}{2}$ " by 1/64".

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WHITNEY MFG. CO.
636 RACE ST. ROCKFORD, ILL.

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- ★ Self-Contained Forced Warm Air Automatic Oil-Fired Heating Units, (from 50,000 to 500,000 B.T.U./Hr.)
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- ★ Boiler-Burner Units up to 25 HP.

Some Distributors and Dealers are receiving Government business for Heating Equipment. If you are one of those who are called upon to submit estimates, heating plans and surveys, we suggest you enlist our cooperation and our engineering service.

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HEATING DIVISION
GAR WOOD INDUSTRIES, INC., DETROIT
Protect Freedom—Buy War Bonds

things that should be produced for civilians. WPB itself has favorably considered: bathroom cabinets; cabinet showers; bathroom fixtures; automatic steam valves; coils for hot water for furnaces; pumps and repairs for hot water heating systems; coal heating boilers and repairs; midget cast iron radiators; pneumatic pressure tanks; water systems and repair parts; laundry equipment and fittings; coal and wood water heater replacements; coal and wood water ranges and heaters and repair parts; gas ranges and repair parts; coal and wood furnaces, pipes and repair parts; stove and furnace pipe elbows; stove and furnace dampers; and many small hardware items and items for the home. Another list is in the making which will be issued shortly.

Sheet Metal Distributors

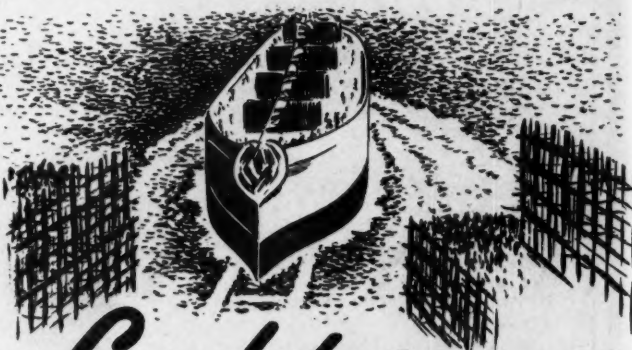
(Continued from page 53)

ing prices are governed by general price regulations of March, 1942, and as revised March 11, 1943. MPR-188 controls producers' selling prices. Any new item must be priced in accordance with MPR-188. Mr. Russell said that dollars and cents regulation of all prices was desirable from all points of view because, with such regulation, the price structure from the manufacturer to the distributor to the jobber to the retailer could be adequately controlled with greater simplicity than by any other method.

Roofing, Conductor Production

Mr. S. L. Wirgman, Chief, Metal Building Materials

That SHIPS May Go Down the Ways QUICKER!



Ships now use Pittsburgh locks on almost all of their duct work—and most of those Pittsburgh locks are made by Lockformer! Because Lockformer provides the speed—the tremendous saving of manpower.

Write for catalog showing complete Lockformer line.

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Section, Building Materials Division, WPB, spoke on "Sheet Metal Building Materials." This unit has to do with what Mr. Wirgman called rain goods—roofing, conductor pipe, trough, gutter and ventilators, as well as other items in iron and steel not related to our field. The primary function is to make sure that all metal entering the manufacture of these particular products be conserved to the nth degree because of the demands for steel for more essential war uses. Mr. Wirgman explained that his section has to do with the issuance and administration of most of the L orders, such as L-126, in which 25 items of steel for building materials are eliminated or partially eliminated from use. He pointed out that the third quarter allocations for steel were less than the second quarter allocations on the same products and that no easing of the situation was in sight.

Post War Planning

At the session on May 18th Thomas J. Quinn of W. F. Potts, Son & Co., Inc., Philadelphia, Pa., Chairman of the War Service Committee of the Association, stated that the need for post-war planning was now evident and that the distributors should know of all of the new things which might come into the market. Mr. Quinn was emphatic that he did not feel that the steel business would be washed out in spite of all the bally-hoo about substitutes. He also said that the distributor should know about first things first and should be in a real position to pass that information on to his customers, to permit them to evaluate the various claims made for any new products.

Mr. Russell M. Whelan, Coordination Branch, Controlled Materials Plan Division, WPB, paid tribute to the combined effort of Government, Industry and Labor whereby Government controls the expansion of



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Janette steel wheels have been on the market for 18 years and manufacturers of oil burners, coal stokers, blowers, generators, superchargers, dust collectors, hair dryers, gasoline engines, heating and ventilating equipment have used them with excellent results, which are possible because of their patented construction. The steel blades are cut in pairs, pressed thru slots in the heavy back plate, then welded. The tips of the blades are pressed thru slots in the inlet disc, then bent over against the inherent spring of the blades. This prevents loose blades and results in an exceptionally rigid wheel. May we send information?

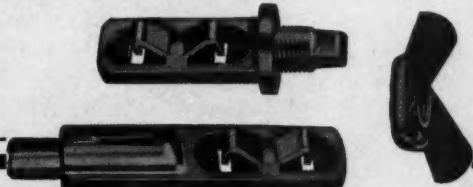
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. . . all its facilities and a wealth of experience in the perforating of metals and other sheet materials to further the essentials of war. Round hole perforations are available in a wide range from as small as .020" dia. to 7" dia.—slot and oblong holes are made as narrow as .008" and as wide as required. Write us for any information needed.

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Perfect ventilation is a war-production "must." Let Allen ventilation engineers report on your needs and recommend the most suitable type of equipment. Allen provides wide choice—famous self-operating Coni-Vane Turbines; Electro-Wind Coni-Vane with auxiliary power; Stationary types of various forms. Let ALLENS clear the atmosphere for maximum production.

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Type E Blower
shown with multiple
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War Plants Need *Propereaire* BLOWERS

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Grand Rapids Die & Tool Co.

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Grand Rapids, Mich.

supplies of raw materials, Industry supplies the production genius, and Labor the hard work and long hours. As an example, by the end of 1943 the production of ammunition in the United States will be greater than that of the entire world. Mr. Whelan also said that the future for the civilian during the war will not be easy and that taxes and savings have to increase.

Maintenance and Repair Materials

In a discussion of Regulation No. 5 (MRO) of CMP, Mr. Whelan emphasized that in this regulation minor items of capital equipment can run to \$500.00, but that any purchase over \$500.00 cannot be broken down into \$500.00 units to come within the plan. CMP Regulation No. 7 sets up a simplified certification for various industries coming under MRO. Under Regulation 5, Schedule 1 will bear a AA-1 rating and Schedule 2 a AA-2 rating; others will be on an AA-5 in place of an A-10. All these ratings can be extended, but galvanized sheets cannot be replaced on MRO. This situation is being cleared up in Washington and a new ruling is expected.

Inventory Problems Eased

Mr. Herbert L. George, Chief, Hardware Supplies Section, Industrial and Hardware Supplies Branch, WPB, explained that his section administers L-63 and PD-1X. That L-63 has accomplished its purpose in that it had been noted that a 40 per cent reduction of inventories has been achieved from 12 months ago. He predicted a change in L-63 so that inventory limits for distributors will be raised to 90 days in the East and 120 days in the West. One of the real problems which he felt faced the distributor was manpower and, with that idea in mind, all restrictive orders should be of such a nature as to give the distributor relief in the filing of forms, etc. Mr. George said that PD-1X will be revised and must go into effect July 1, 1943, and that the form will be similar to PD-1A, thereby saving many man hours in the filling out of new forms. To alleviate the pressure on manufacturers of tools it has been suggested that the tools of men entering the armed services be surrendered so that they are not idle during the absence of the owner. The redistribution section of WPB is working on the tool problem now with the idea that full use of all tools can be obtained.

Radiant

Energy Drying

(Continued from page 50)

polation for shorter periods of time. The extrapolations are usually shown by dotted lines and (so far as we have learned) are not the result of experience. What is needed now is accurate time-temperature data in the range of from 1 to 15 minutes, correlated with watts per square inch, and for a variety of products, for example, light sheet metal, heavy gauge metal, castings, wood panels, etc. It is encouraging to note that paint manufacturers are now seriously considering the installations of lamp tunnels in their own premises where these unknowns can be ascertained.

Several manufacturers are now applying an additional label to the can giving instructions for

the curing of the product under lamp radiation. This is also encouraging to the Committee.

Reflector Materials

The Committee has consistently favored the use of Alzak reflectors for radiant drying; however, at this time the supply of aluminum is doubtful. In view of this situation, the Committee has investigated substitutes.

A reflector of the same contour, focus, etc., was spun from copper and polished. An evaporation test was conducted in comparison with Alzak reflectors. The test indicated that the copper reflector was about on an equality with the poorest showing of Alzak reflectors, based on previous tests covering a limited variety of contours and foci. However, the copper oxidizes rather rapidly under the intense heat and the oxide is not easily removed. Arrangements have been made to brass-plate several copper reflectors in order to obtain results with brass, which is known to present a harder surface and presumably one that is more easily cleaned. From published data the difference in reflecting power of the brass and copper is not significant in the radiation band in which we are interested. Sheet brass is rather expensive, but if we take steel and plate it with brass, the ingot or anode brass is stated to be inexpensive (approximately 15 cents per pound as compared with from 60 to 80 cents per pound for rolled sheet brass).

Attached are data sheets showing the details of tests conducted in the laboratory and covering a great variety of industrial drying problems, arranged alphabetically for convenience of use. In the case of paint curing, the description of the finish and Catalog No. (whenever available) has been given; also such pertinent data required in contacting industrials having the same or similar problems. The tabulations tend to show that there is scarcely a business in which radiant drying cannot be profitably employed.

Dealer

Situation—Post War

(Continued from page 23)


ahead . . . to be ready to go when the last shot is fired. That manufacturer has his post-war dealer organization and I think it would be pretty hard to get it away from him.

What he has been able to do in a personal way in a small area would not be so easy on a national or a wider territory basis. But there are . . . and the smart manufacturer will find . . . the means to accomplish similar results. Undoubtedly, many of you can match this story with one of your own.

And that, gentlemen, is what your dealer situation boils down to in the first part of this subject on the warm air dealer from the viewpoint of the furnace manufacturer.


As we have shown, (1) the established dealers are there, reduced in number but still a substantial nucleus to get us over the first hump. (2) They're the first ones, the logical ones, the only ones now to go to work on. Miss them and you wait till others establish them-

WARM AS TOAST...



ON 25% LESS FUEL

Severe fuel rationing has put sales magic into these simple words, "A Field Control keeps you warmer on less fuel!" Always a best-seller because it cut fuel costs from 5% to 25%, the fuel saving Field Control now has a stronger appeal and greater market than ever before. The complete Field line covers all residential and commercial needs. And there's profit in every easy sale, installation taking as little as 30 minutes.



Illustrating the Field Type "M" Control, acknowledged the most accurate of draft controls. Write for information on this and other types in the complete Field line of domestic and commercial units.

FIELD

CONTROL DIVISION
MENDOTA, ILLINOIS

YOUR BLOWER Requirements

AVAILABLE AT
Schwitzer-Cummins Company



★ **BLOWERS**
FOR EVERY PURPOSE

Double Inlet and Single Inlet

HY-DUTY Blowers, 9 1/4" to 25" • Top and Bottom Horizontal, and Top and Bottom Vertical Discharge • Top and Bottom Motor Mounting • Dual Units also available.



★ **CENTER WHEEL**—Double Inlet, Double Width • Reinforced Center Disc • Designed for Modern Air Conditioning and Heating Applications • Sizes, 4 1/2" to 50".

★ **ENGINEERING DATA**—Write for Catalogues showing complete Performance Data • Experienced Engineering Department available to help solve your Air Handling Problems.



BLOWER DIVISION
SCHWITZER-CUMMINS COMPANY
1145 EAST 22ND STREET INDIANAPOLIS, U. S. A.

Write for
Catalog and
Prices



SPEED UP ORDERS with a **BEVERLY SHEAR**

Throatless shears that cut any shape . . . straight, circular or irregular. FASTER — Precision — accuracy! Order No. 1 for 14 gauge. No. 2 for 10 gauge. No. 3 for 3/16 inch mild steel and 10 gauge stainless.

BEVERLY SHEARS CO.
3008 W. 110th PL. Dept. 1
CHICAGO, ILL.

SAL-MO A S B E S T O S PRODUCTS

QUALITY Asbestos Products for all types of insulation: Papers, Millboards, Pipe Joint Tape, Pipe Coverings for all kinds of steam, hot and cold water lines, Asbestos Cements, Asbestos Ductboard.

SAL-MO SUPPLY DUCT

The popular non-metallic material for constructing Supply and Return Ducts for Warm Air Heating and Air Conditioning Systems.

SALL MOUNTAIN COMPANY
176 W. ADAMS STREET DEPT. K CHICAGO, ILL.

Repair Parts

FOR ALL
HEATING UNITS



A. G. BRAUER SUPPLY CO.
Distributors of All Heating and
Air Conditioning Equipment

2100 Washington Ave. St. Louis, Mo.

**REMEMBER — TO BUY
GENUINE
REPAIR PARTS for
ROUND OAK — Furnaces
Stoves and Ranges**

ROUND OAK COMPANY

Dowagiac

Michigan

selves for your chances. (3) There's a big question-mark on how many of them you have had you can still call yours but, while that's a precarious situation on the one hand and presents an additional problem, it's a break and an opportunity on the other. (4) You're going to have competition for them. It's a job to get them. It's a job to hold them.

Other Manufacturers—Other Dealers

Now . . . and much more briefly . . . for the second part of the subject:

There are other than furnace manufacturers in this audience and in this industry . . . manufacturers of controls, blowers, filters, sheets, pulleys, motors, bearings, etc., as well as stokers, oil burners, etc.

And there are other than warm air dealers in this heating industry . . . there are steam and hot water heating contractors; there are specialty appliance dealers; there are conversion oil burner dealers; there are conversion stoker dealers; there are utilities . . . and there may eventually be some new, as yet undisclosed, type of dealer who will assume importance.

Many manufacturers with these products applicable to several or all divisions of the heating industry have the problem of determining what kinds of dealers in the future are going to be important and in what proportion.

Divisions of Industry

There is more to it than I can go into at this time, but we suggest as one approach that you set up the various divisions of the heating industry in some such manner as this (Chart 5). There is the warm air division; the steam and hot water division; and there are the oil burner, the stoker and the gas divisions. We have included the specialty division, too, consisting of the plug-in type of merchandise.

One of these divisions is the basic business of the warm air heating dealer; one of the steam and hot water heating contractor; one of the oil burner dealer; one of the stoker dealer; one of the gas dealer or utility; one of the specialty appliance dealer.

Having set up these divisions on such a basis, we can take any product and put it in the division or divisions in which it is used. It would naturally follow, then, that the dealer or dealers whose basic business is in those divisions are the most important dealers for the manufacturer of the product.

How important, in turn, can be determined by the volume of business going through each division . . . that is, the volume using his product.

Sales and Trends

Where they have been available, we have filled in the unit sales of each division's product in each of the five years prior to the war (see Chart 5).

You will note the totals across the bottom. You will note the trends in sales of each division through those five years.

I have separate charts showing each.

In unit sales (Chart 6), warm air distinguished itself as the leader in volume. In the five-year period shown, almost 70 per cent of the central heating plants sold were warm air . . . over 70 per cent in the last two years.

In trends (Chart 7) the yearly business in furnaces went up 38.4 per cent from 1937 to 1941 . . . a constantly rising curve. Only stokers beat that . . . they more than doubled in volume on an ever-rising curve. Boilers and conversion oil burners varied little from year to year.

Now these divisions might continue in these propor-

PRE-WAR TRENDS IN HEATING EQUIPMENT

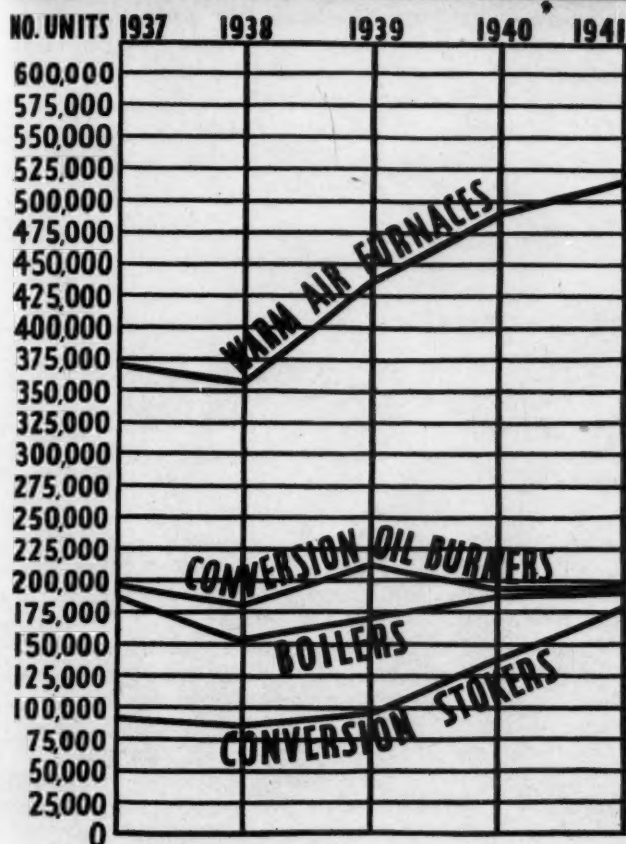


Chart 7

tions and with these trends after the war and support the kind of dealer organizations they have in the past. Or, there may be product trends which will affect some of them . . . or all of them.

The development of the complete package unit in both furnaces and boilers, for example, we believe is one definite such trend.

In the total furnace sales shown (Chart 5), 40,531 of them were complete oil-fired jobs in 1940; 66,226 in 1941 . . . a 60 per cent increase. 76,075 of them were complete gas jobs in 1940; 155,202 in 1941 . . . over 100 per cent increase. Complete stoker-fired furnace sales were also jumping, but their exact figures are not available.

We refer you also to George Boeddener's bulletin to members of this Association of April 20, 1943, in which he projects furnace sales for 194X. In his projection of 900,000 units, 288,179 are gas-fired complete units; 115,719 are oil-fired; and 514,102 are coal-fired. Again no estimate is made of the number of the latter that will be stoker-fired complete units, but we all know it will run into greatly increased figures.

Significant in Dealer Selections

It's such developments and trends that are significant in dealer selections. They may greatly expand one division of the industry and leave another untouched or push it clear out of the picture, and a dealer in one division may, as a result, become important to a particular class of manufacturer where formerly he may have meant nothing or very little . . . and a dealer

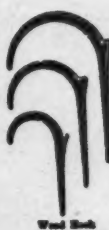
RYERSON CERTIFIED STEELS

10 STRATEGICALLY - LOCATED PLANTS

Principal products include—Alloy Steels, Tool Steels, Stainless Steel, Hot Rolled Bars, Hoops and Bands, Beams and Heavy Structural Channels, Angles, Tees and Zees, Plates, Sheets, Cold Finished Shafting and Screw Stock, Strip Steel, Flat Wire, Boiler Tubes, Mechanical Tubing, Rivets, Bolts, etc. Write for Stock List. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City.

-BB-

HOOKS & HANGERS



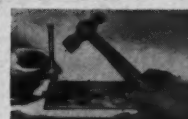
THRU
LEADING
JOBBER
EVERYWHERE



BERGER BROTHERS CO.

Main Office & Factory
229-237 Arch St. Philadelphia, Pa.

NEW BADGER DAMPER REGULATOR *Control*



EASIER to INSTALL
... at Lower Cost!

A Prick Punch and a Hammer are the only tools you need to install this New BADGER Damper Regulator Control. Just place the Regulator over the metal edge; then a few quick blows on the punch locks it firmly in place—with the punched sheet metal itself forming the lock. A quick, easy job, even for unskilled labor. BUY BADGER through your favorite jobber, or write for details and samples.

BADGER MFG. & SALES COMPANY
329 East Brown Street • Milwaukee, Wisconsin
Mfr. of BADGER Humidifiers with the famous TWO-WAY Snap-Action Valve

Sturtevant MILL EXHAUSTER

REG. U.S. PAT. OFF.

LARGE, STREAMLINED INLET MEANS MINIMUM LOSSES DUE TO ENTRANCE FRICTION OR EDDIES

**FOR HIGH EFFICIENCY
LOW POWER COSTS**

B. F. STURTEVANT COMPANY
Hyde Park Boston, Mass.

"Designed and Built
by the Pioneer"

SPOT WELD WITH AN ACME "Hot Spot" WELDER

Proven utility for over 26 years in thousands of sheet metal fabricating plants.

Write for Literature and Prices.

Complete Range of Sizes
Lifetime Guarantee!

ACME ELECTRIC WELDER CO.
2618B Fruitland Road Los Angeles, Calif



**NEEDS NO PRIORITY
FLOWS EASILY
WORKS WITH MOST METALS**
SAMPLE AND DATA ON REQUEST

L. B. ALLEN CO., Inc.
6702 BRYN MAWR AVE., - CHICAGO

REPAIR PARTS

for any and all makes of

STOVES—FURNACES—BOILERS

Same Day Shipments

Also **MODERN AIRE** FURNACES

Fittings, Registers, Supplies

**DES MOINES
STOVE REPAIR CO.**

112 S.W. 2nd

Since 1869

DES MOINES, IOWA

• BARBER

**Gas Pressure
REGULATORS**

for Reliability!

Certified by A. G. A. Testing Laboratory.
Write for Catalog and prices on Barber
Conversion Burners, Appliance Burners,
and Regulators.

THE BARBER GAS BURNER CO.
3702-4 Superior Avenue
CLEVELAND OHIO



Sizes 1/4" up

formerly important and a Number One objective may become secondary.

You draw your own conclusions. As I said before, there is more to the whole problem than this . . . such as the qualifications of dealers in one division for doing a job in another division. But the process suggested will at least focus your thinking on fundamental facts and might appeal to you as a helpful pattern for arriving at an answer.

As for the warm air dealer . . . the answer seems to be, on all this evidence, that his business has been and will be a very important business. And his situation . . . how he has fared in war and how he is lined up for post-war developments . . . is, we believe, as significant to all manufacturers concerned with this industry as we hoped, when we just presented it, it might be for the furnace manufacturer alone.

The Illinois Convention

(Continued from page 57)

to \$1,500,000 family housing units each year for at least a 10-year period. It is expected that there will be many houses built, costing \$5,000 or more, and in this market the established warm air heating industry will find acceptance for its products and services. At the present time it does not look as though any pre-fabricated house program or any very low-cost government-financed housing program will offer much of a market to the warm air industry. Manufacturers of heating equipment are well advanced in post-war product design and hopes, shortly, to announce an overall program which will definitely place the industry in an advantageous position to sell central heating systems in some 16,000,000 stove heated houses and in as many as possible of the new houses which will be built.

Office of Price Administration supplied three speakers on current OPA problems affecting the industry. Dale L. Smith, District Price Officer, Peoria OPA office, announced some 378 price regulation orders in effect and briefly described how the average OPA office is broken down to permit specialists in various industries.

Lynn F. Jorgenson, Iron and Steel Specialist, Chicago Regional OPA Office, explained that under Schedule 49, any one buying materials above the ceiling price is just as liable as the seller, also anyone selling an order of \$10 or more for resale must file a price schedule with OPA. Furthermore, anyone who sells 2500 pounds of iron or steel materials in a given order must sell at the warehouse price schedule. This applies only to materials sold as received and does not apply to materials fabricated and then sold. This means that a dealer who sells an order totalling 2500 pounds of nails, fencing, sheets, and other metal items must sell all items at the wholesale price.

H. J. Hedrick, Building Materials Price Specialist, Chicago Regional OPA Office, explained that all reports under Price Regulation 251 have now been revoked, but that the rest of the order still stands. A contractor must therefore inform his customer of the existence of Order 251 and after the job is finished must file with the customer and with OPA a statement that the prices charged are within the price ceiling. Mr. Hedrick then explained the pricing methods to be followed on orders under \$500 and over \$500 as explained previously in AMERICAN ARTISAN. A stamp of each

bill rendered the customer explaining that compliance under 251 is adhered to will be sufficient for most purposes, said the speaker.

Virgil Martin of the Peoria WPB office distributed to contractors a number of the WPB orders which affect the industry. Most of these orders have previously been explained and described in AMERICAN ARTISAN. Briefly, Mr. Martin pointed out that under Order L-63, if a dealer's total inventory is over \$20,000, he must keep records on form 336.

OPA Activities

On all orders falling under the various P Limitation regulations, the certification presented under Priority Regulation No. 3 should be used. On orders governed by CMP regulations, the certifications shown in CMP No. 8 should be used. Contractors for the purpose of purchasing materials and equipment at commercial discount quantities can basket all orders by ratings during a 90-day period.

The speaker suggested that for the sake of compliance dealers should so arrange their books that they can readily produce evidence to show where orders originated, what were the quantities sold, and what were the materials. If the dealer wishes to sell new plumbing or heating equipment, he should apply to the district WPB office on Form PD-851. CMP regulation 5 now supercedes old order P-100, so dealers should not accept P-100 certificates any more. The proper certification on CMP-5 orders is the certification shown in CMP Regulation 7 or 8. CMP-5 regulation provides a means for obtaining materials required for maintenance and repair on your own building and you may use either the same amount of repair or maintenance material you used in 1942 or the same quantity of materials used in the same quarter of 1942 or, seasonally, one-quarter of the total 1942 use.

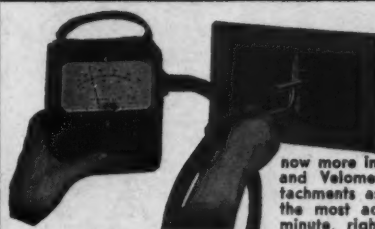
Round Table Problems

A round table discussion of current problems was handled by several association members. President-elect Edward Pluth said in his particular business furnace cleaning keeps his mechanics busy and he believes insulation is a profitable and easy-to-sell item. Ventilation to eliminate winter condensation has also proved a profitable business in his shop.

Adolph Reece of East St. Louis said he is finding industrial sheet metal work about the same as before the war, except that he is having to use some substitute materials. Heavy sheets are hard to get, said Mr. Reece, but in general his business is pretty much the same as previously.

E. H. Olsen, President, Sheet Metal Products Company, Peoria, said the jobbers are having a tough time at present, but that the jobbers' PD-1x applications seemed to be bringing in more materials for civilian use this year than they did in 1942. Labor is difficult to get and delivery is troublesome. Jobbers are attempting to hold volume by pushing the sale of items not usually pushed heavily as, for instance, filters. Mr. Olsen stated that manufacturers of the various asbestos board are certainly trying to help the contractor and the contractor should not be afraid to use this material. The speaker's opinion was that the present 20-80 solder is a very poor substitute for the 50-50 solder formerly used and considerable experimentation seems necessary before contractors can use this new solder with the conviction that it will be satisfactory. Jobbers hope that materials or prefabricated gutters

"Alnor" VELOMETER



Direct Reading Air Velocity Meter

"Alnor" Velometer fills the need for a simple, accurate means of determining air velocity in air conditioning, forced air exhaust ducts, etc.

Peak efficiency operation is now more important than ever before... and Velometer with its many simple attachments assures correct readings, under the most adverse conditions, in feet per minute, right on the scale! These readings enable you to gauge the system's efficiency and MAKE NECESSARY ADJUSTMENTS to assure greatest efficiency.

Write for the NEW CATALOGUE NOW!



Illinois Testing Laboratories Inc.

412 N. La Salle St., Chicago, Ill.

CHICAGO STEEL BRAKE



BEST BY FORTY-TWO YEARS TEST

DREIS & KRUMP MFG. CO.
7404 LOOMIS BLVD. CHICAGO

FURNACE REPAIR PARTS For All Makes Now Available

With priorities restricting sales of new equipment, repair business is more essential than ever. Furnace dealers can still depend upon prompt deliveries of repair parts for ALL MAKES AND AGES of furnaces. Get the repair business now and you'll be all set to get the new jobs after the war. Send in your orders now, while stock is available for immediate delivery.

PEERLESS FOUNDRY CO.

1855 LUDLOW AVENUE

INDIANAPOLIS, IND.

Pioneers in Warm Air Heating Equipment for over a third of a century.

—ROCK ISLAND— REGISTERS and INTAKES

Two trade marks to remember when you want the height of efficiency, beauty and low cost combined in registers and intakes.

AIR-VANE



Dealers Net Estimating book, a time and money saver, sent free upon request.



ROCK ISLAND REGISTER CO.
ROCK ISLAND ILLINOIS



ECON-O-COL the "Stronghearted" STOKER



ECON-O-COL STOKER DIVISION
COTTA TRANSMISSION CORP.
ROCKFORD ILLINOIS

THE HIGHEST OF QUALITY

NEW LECTRO-SHEARS



Cut Metal, Faster, Easier

Black and Decker's new, redesigned Portable Lectro-Shears cut all types of sheet metal quickly, accurately . . . on a radius as small as $\frac{1}{4}$ ". Cutting operation always visible. New, improved operating handles provide better balance, easier control on curves and irregular lines. Cut up to rated capacity in steel, galvanized iron . . . 50% greater in non-ferrous metals. Ball-bearing equipped. Universal motor, designed for high speed, trouble-free service. Two sizes—18 and 16 gauge. No. 16 handle equipped with instant release trigger switch and locking pin for continuous operation. See your Black and Decker Distributor, or write direct to: The Black & Decker Mfg. Co., 782 Penna. Ave., Towson, Md.

Leading Distributors Everywhere Sell



Black & Decker
Portable Electric TOOLS

GILCO

Automatic

FURNACES and WATER HEATERS



J. L. GILLEN CO.

DOWAGIAC • • MICH.

RUGGED CONSTRUCTION SIMPLE OPERATION

MASTER HEAT REGULATOR

TYPE A-23 Positive snap action—
operates quietly, surely and safely.

WHITE MFG. CO.

2368 University Ave., St. Paul, Minn.



WAR TIME

Technical Ply-Woods, 228 N. LaSalle St., Chicago, has contracts for aircraft plywood and fabricated plywood parts for practically all of the large aircraft manufacturers. All of their present business consists of war orders, and all employees are purchasing war bonds.

Allan P. Crawford, advertising manager, is now a Corporal in the Army Air Corps, with a Bombardment Squadron in Australia. He saw action in New Guinea.

Frank E. McCoy, who conducts a roofing and sheet metal business at Galveston, Texas, mentioned in these columns last August as serving as a seaman on tankers, writes again from Delhi, India, with a postal view of the historical iron pillar at Qutab Minar. This famous Minar was completed in 1220—height 237 feet, diameter 47 feet, and 379 stairs.

"Common labor earns from 35 cents to 60 cents a day for men. Women make less. Prices are going up considerably," he says. "Meat is 30 cents a pound and flour 11 cents a pound."

Another view shows an Indian sheet metal worker tinning cooking pots. "His wages are about 50 cents a day. If it is necessary to hold the metal, he does so with his toes. He does nearly all of his work while squatting."

Another set of views from Perth, Australia, tells us that this is a beautiful city. All the houses are of brick, but a great many have corrugated iron roofs. All the rest are French style tile. The tile is laid on open spaced sheathing. All gutters and downspouts are galvanized iron. Tanners make \$23 per week. They are guaranteed steady work. Food is plentiful—tea, sugar and clothing only are rationed."

Westinghouse Electric Appliance Division advertising programs have been converted to an all-out war effort just as surely as have shop facilities, according to Roger H. Bolin, advertising manager of the Division at Mansfield, Ohio. "In peacetime our advertising is utilized to build acceptance for and interest in our electrical appliances, but today our advertising is dedicated to the job of helping win the war." Everytime we can eliminate the necessity of using a new repair part we are saving that much critical material and that many productive man-hours for straight armament production."

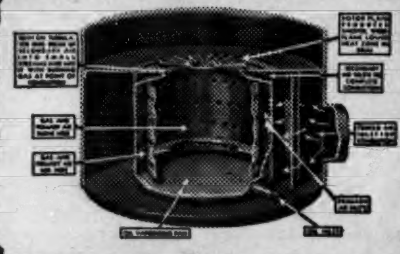
Educational advertising offers teachers' manuals, student folders and films for classroom use in high schools and colleges. Westinghouse now has a Consumer Education Department which produces educational literature on the care and use of appliances and on nutrition, and handles on the average about 1,000 inquiries for this type of material each week.

Westinghouse has laid considerable stress on the necessity of trade paper advertising and direct mail to its retailers. "Because the average dealer can not be contacted personally by a sales representative these days, Westinghouse feel that it is important to keep up its contacts through advertising and the mails," Mr. Bolin said. This trade advertising for the first few months will feature the new Westinghouse "Conserve" program—a broadened conservation and service program.

Famous Patented *Monogram* Vaporizing Burner Provides Highest Known Operating Efficiency with Oil

Full Forced
Winter Air
Conditioners

Booster
Gravity
Units



Utility
Room
Units

Automatic
Water
Heaters

The QUINCY STOVE MFG. COMPANY, Quincy, Illinois

TRADE NEWS ★

Chester F. Conner, has been appointed merchandise manager for The B. F. Goodrich Company, Akron, Ohio. Mr. Conner has been with the company nearly 33 years. He is on the staff of advisers in the Office of the Rubber Director at Washington, and has been active in activities of Mill Supply organizations.

B. F. Sturtevant Company, Hyde Park, Boston, Mass., reports a large number of former salesmen, engineers and executives in service. All business is now either directly or indirectly for war purposes.

The company is aiding the Government in selling war bonds to their people. Two former employees are missing and may have been killed.

Lt. Col. John Slezak, deputy chief of the Chicago Ordnance District (president Turner Brass Works, Sycamore, Illinois—on leave of absence) has been promoted to the rank of Colonel.

Col. Slezak first served the Chicago Ordnance District as assistant chief of the ammunition branch in January, 1942. In March of that year he was promoted to chief of the tank branch and in September was named chief of the Industrial Division. On December 15, he was named deputy chief. His years with the Ordnance Reserve date back to 1924, when he was commissioned a second lieutenant.

Schwitzer-Cummins Company, Indianapolis, Indiana, has been awarded the Army-Navy "E" for excellence in war production. Col. Fred A. McMahon, Chief Cincinnati Ordnance District, presented the award, and Louis Schwitzer, president of the company, accepted the award. Award pins were presented to employees by Capt. O. F. Heslar, Director of Training, Great Lakes Naval Training Station, and accepted on behalf of the employees by Kenneth Marley, President Local 1148, United Steel Workers of America. Col. W. S. Drysdale, Commanding Officer, Fort Benjamin Harrison, made the concluding address.

The company makes engine superchargers, artillery ammunition components, and stokers.

Viking Air Conditioning Corporation, 5600 Walworth Ave., Cleveland, is now making special water-proof boxes for containing the new portable photographic sets. Instead of using a trailer for a dark room, quick opening tents transported by jeeps will be the latest wrinkle. The boxes are used as a combination carrier and wash box. To manufacture these, the company has installed several portable gun welders, a large 106-ton double crank press and a large press brake, as well as a number of sets of special gas welding, soldering and brazing outfits.

The company also makes quite a number of aluminum parts for the new Navy Fighter Plane, Corsair, and smaller parts for the Flying Fortress and the new Cargo Gliders.—Marion I. Levy, President.

**WHEN WAR REQUIREMENTS
ARE SATISFIED IT WILL
AGAIN BE**

Syncromatic

**COAL OR OIL
GRAVITY AND FORCED AIR
STEEL FURNACES**

3373 No. Holton St., Milwaukee, Wis.

MERCROID



**THE ONLY
100%
MERCURY SWITCH
EQUIPPED
CONTROL LINE**

Hermetically sealed corrosion-proof Mercoid switches are approved by time and experience. They assure better performance and longer control life.

THE MERCROID CORPORATION
4219 Belmont Ave. Chicago, Illinois

Leader

**KOOLSTACK
FURNACES**

FOR STOKERS

OIL or HANDFIRED

50,000 to 200,000 BTU's

Patented Damper

Uses All the Heat
in the Added Heat-
ing Surface

**THAT
IS SOMETHING
TO SELL**

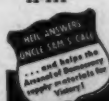
LEADER IRON WORKS, Inc.
Decatur Illinois

HEIL IS THE NAME TO REMEMBER

for oil burners . . . oil-designe
furnaces and boilers that assure you of

- ✓ Satisfied, loyal customers
- ✓ Minimum service trouble
- ✓ Efficient, economical operation
- ✓ Design features that sell
- ✓ Profitable manufacturer-dealer relation

H-1A



THE HEIL CO.
GENERAL OFFICES: MILWAUKEE, WISCONSIN

CHOOSE:

BONDS or BONDAGE

Buy U. S. War Bonds

With manufacturing facilities converted 100% to War Production, our research department is devoted to designing improved units to be added after V day to the complete CONCO line.

CONCO CORPORATION
Div. of H. D. Conkey & Co.
MENDOTA, ILLINOIS



New and improved "EX" Fans are now available in standard sizes from No. 15 to No. 80 and from 200 to 30,000 CFM Capacity with pressures up to 15" W.G. These fans are commonly used for exhaust problems to handle dust, fumes, shavings, etc., but can be adapted for forced draft service.

"EX" Fans are furnished in all standard arrangements of the N.A.F.M. The design is such that it can be easily modified to suit special assemblies, thus "EX" Fans are ideal for resale purposes, as part of factory assembled units.

Std. Arr. No. 1
for Belt Drive

Write us about your problems. Send for Bulletin No. EX-41

BAYLEY BLOWER COMPANY

1817 South 66th Street

Milwaukee, Wis.

WISS "METAL MASTER"



Compound Action
**AVIATION
SNIPS**

Used extensively by leading aviation and metal working industries, and in U. S. Government Plants throughout the country.

• Cuts circles, squares and irregular patterns on Stainless, Dural, and Monel Metals with ease.

• All Parts interchangeable.

• M1 for cutting left—M2 for cutting right.

WISS BULLDOG AND STANDARD PATTERN SNIPS are used in Shipyards, on Government construction projects, and on maintenance work wherever sheet metal is required.

Send for literature of complete line

J. WISS & SONS CO.

ESTABLISHED 1848

NEWARK, N. J.

Bremil PORTABLE SHEARS



Your work will proceed faster and neater when you use Bremil Portable Shears on the job or in the shop. Write today for literature showing complete line.

ALL-ALLOY No. 2 cuts up to 1/4" steel plate.

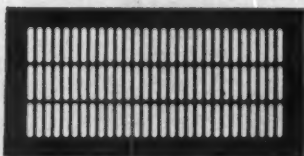
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Auer registers and grilles can only be furnished subject to present Federal restrictions. We are also equipped for stamping and fabricating other products of sheet metal. Our facilities are for perforation, forming, assembling, welding, and enameling in gauges 10 to 24. Inquiries invited.



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& GRILLES - For Air Conditioning and Gravity

and downspouts will soon be available in larger quantities for repair and maintenance work.

Supplementing Mr. Olsen, Erwin Eichenberger announced that the Smoke-pipe Advisory Committee has made known the needs of the industry insofar as smoke-pipe is concerned, and the Committee feels fairly certain that additional quantities of smoke-pipe materials will be obtainable during the summer and fall.

Labor Problems

R. M. Wallis, manager, Meyer Heating and Sheet Metal Division of the Meyer Furnace Company, Peoria, discussing labor, said that the sheet metal shop in an active war area must now compete for labor with war plants which can afford to pay higher wages or give steadier employment or offer easier working conditions. Sheet metal shops cannot pay a higher wage scale, so labor is going to the war plants. Furthermore, labor is seeking the labor shortage areas where they can obtain much overtime work. The only bright spot in the picture is that in certain areas our industry has been declared essential and under this ruling we can keep our mechanics if we wish to hold them. If the war continues, it seems likely that more and more shops will have to find needed war products and enter into the manufacture of these products if the shop wishes to survive. If the war plant construction program does come to an end soon, then perhaps our industry will benefit by having available mechanics who were working at war plant construction and will then be unemployed. Nonetheless, skilled mechanics—as we know them in our industry—are exceptionally scarce and the industry as organized at present cannot do very well with the semi-skilled or machine trained mechanics who are now getting high wages in war product plants. Perhaps after the war these semi-skilled or machine operators will hold union cards and our industry will be expected to employ them when they will not be all around mechanics which we require. Education seems to be the only way in which the industry will be able to solve this particular problem. We, therefore, should do our best to inaugurate educational programs for apprentices and older men who are not all around mechanics.

Keeping 50 Million Workers Working

F. E. Mehrings, Director of the NWAH&AC association, pointed out that all predictions point to our winning the war, but the winning of the war may not come as soon as many people anticipate, and when the war is over there will be tremendous problems to be solved. For example, a survey of some 4,000 individuals showed that there is a great fear of the future held by many persons. Certainly there seems every likelihood of a tremendous demand for goods and services and there will be tremendous sums of money available to buy these goods or services, so there is the theoretical possibility of employment of all the workers who wish to work after the war. If we can keep everybody busy, there will be no depression. But the problem is to keep 50,000,000 workers busy and to maintain a national payroll of a hundred billion dollars a year. To solve this problem will demand the utmost courage and a willingness on the part of every man in business and every industry to do everything in its power to produce the goods and services required and to keep as many people as possible employed.

AMERICAN ARTISAN Service Section

Alphil Spot Welders

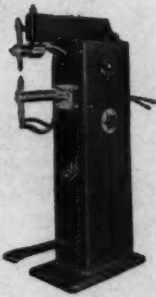
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Rocker Arm, Press Type,
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2—20,000 C.F.M.—Evaporative Coolers.

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WANTED: Good used Blowing Equipment for
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stallation layouts, and ability to analyze and
answer service complaints, to work in engi-
neering department of large heating equipment
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Retiring after twenty years. Large community
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FOR SALE: Set of used Tinner's Bench Tools
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Illinois. Address Arthur Wiborg, McPherson,
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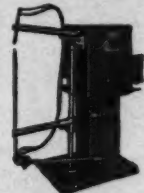


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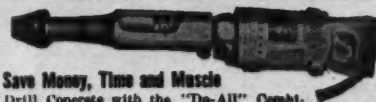


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standard SPOT WELDERS from 1/4 to 500 K.V.A.
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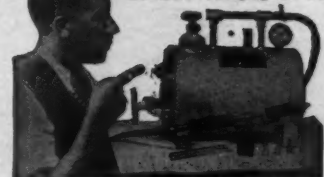
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POWER: 8"10 ga.; 8"12 ga.; 4" 1/4", 6"12 ga.;
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FOLDERS

42", 30", 20" PEXTO & NIAGARA;

FLOOR LATHES

16"x8 Ft. AMERICAN GEARED HEAD;
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26"46"x20 Ft. SCHUMACHER BOYE;
TURRET: No. 1 P & W. WIRE FEED, M.D.;

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1/2" & 3/4" SHUSTER WIRE STRAIGHTEN-
ERS. 24 Ft. & 30 Ft. Cutoffs; 7/16" Wells;
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NO. 3B KEARNEY & TRECKER & NO. 3
RYERSON-CONRADSON Plain;
NO. 2 1/2" B K&T & NO. 2 B&S Verticals;
NO. 2 BROWN & SHARPE UNIVERSAL;
2" P&W DUPLEX SPLINE MILL;

"SEND FOR CATALOG NO. 430."

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OHL: 10"14 ga.; 4"16 ga.; 5"14, 66"14 ga.;
NO. 335 CHICAGO STEEL; 10" POORMAN;

OBI PRESSES

NOS. 5 & 3 CONSOLIDATED;
NO. 4 R&K; NO. 18 BLISS;

DOUBLE CRANK PRESS

NO. 4-80 W&W 10" stroke; 4" shaft;
NO. 91-B TOLEDO; 6" stroke; 32 1/4" bet.;
NO. 91-C TOLEDO, 4" shaft, 6" str.;

ROLLS

ANGLE: 6x6x1/4" WICKES;
W&W Angle & Bending Roll;

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POWER: 10' 1/4" CHGO. STEEL; 10' 14 ga.;
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PROJECTION TYPE; 60 c. 440 v.;
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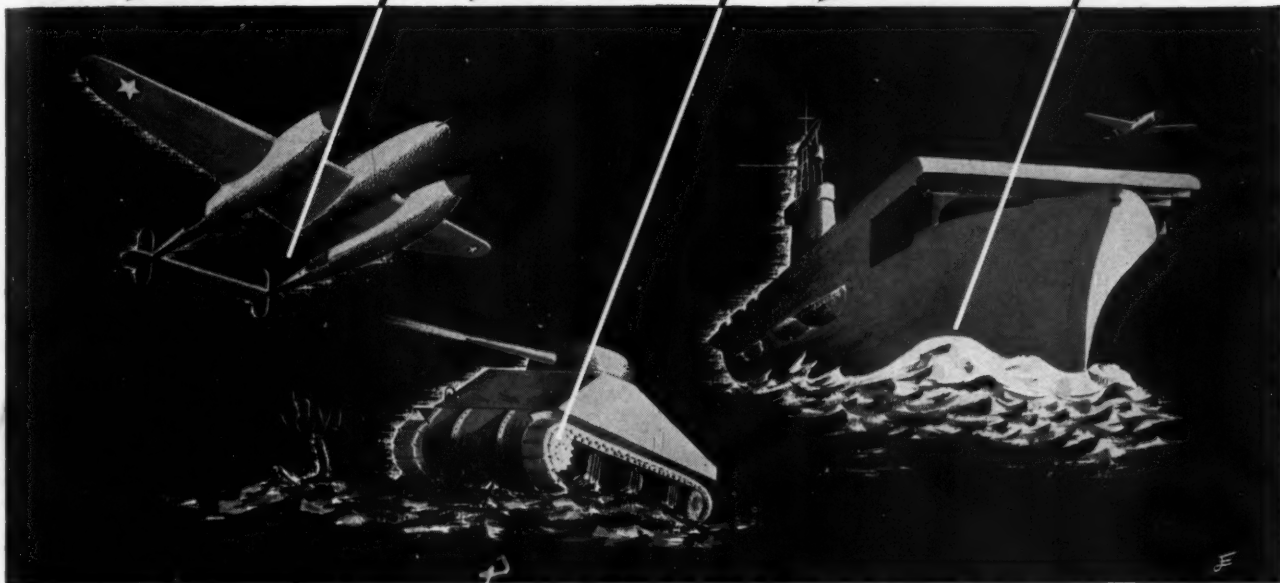
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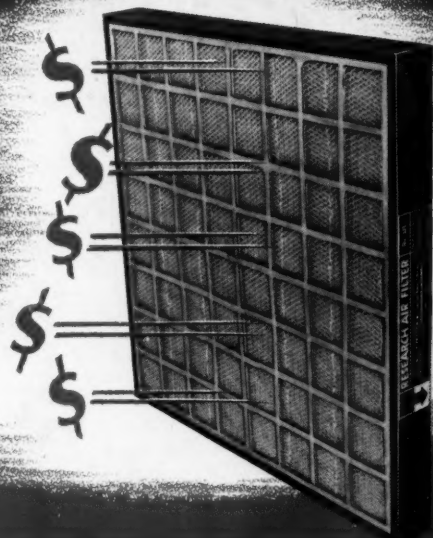
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